HIGHWAY WORK PROPOSAL

Proposal Number: Ø 2

Wisconsin Department of Transportation
DT1502 10/2010 s.66.29(7) Wis. Stats.

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Rock and Jefferson	1390-04-80		Janesville - Fort Atkinson Road CTH N - S. Fort Interchange	STH 26

This proposal, submitted by the undersigned bidder to the Wisconsin Department of Transportation, is in accordance with the advertised request for proposals. The bidder is to furnish and deliver all materials, and to perform all work for the improvement of the designated project in the time specified, in accordance with the appended Proposal Requirements and Conditions.

Proposal Guaranty Required, $ 470,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: February 12, 2013 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time October 1, 2014	
Assigned Disadvantaged Business Enterprise Goal 0%	This contract is exempt from federal oversight.

This certifies that the undersigned bidder, duly sworn, is an authorized representative of the firm named above; that the bidder has examined and carefully prepared the bid from the plans, Highway Work Proposal, and all addenda, and has checked the same in detail before submitting this proposal or bid; and that the bidder or agents, officer, or employees have not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal bid.

Do not sign, notarize, or submit this Highway Work Proposal when submitting an electronic bid on the Internet.

Subscribed and sworn to before me this date _____

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State Wisconsin)

(Date Commission Expires)

Notary Seal

(Bidder Signature)

(Print or Type Bidder Name)

(Bidder Title)

For Department Use Only

Type of Work Grading, borrow excavation, select crushed material, base aggregate, culvert pipe, storm sewer, concrete pavement, HMA pavement, curb and gutter, sidewalk, barrier wall, beam guard, signing and marking; Structures B-28-131, B-28-132,C-28-32, and R-28-30.	
Notice of Award Dated	Date Guaranty Returned

PLEASE ATTACH
PROPOSAL GUARANTY HERE

Effective with November 2007 Letting

PROPOSAL REQUIREMENTS AND CONDITIONS

The bidder, signing and submitting this proposal, agrees and declares as a condition thereof, to be bound by the following conditions and requirements.

If the bidder has a corporate relationship with the proposal design engineering company, the bidder declares that it did not obtain any facts, data, or other information related to this proposal from the design engineering company that was not available to all bidders.

The bidder declares that they have carefully examined the site of, and the proposal, plans, specifications and contract forms for the work contemplated, and it is assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of the specifications, special provisions and contract. It is mutually agreed that submission of a proposal shall be considered conclusive evidence that the bidder has made such examination.

The bidder submits herewith a proposal guaranty in proper form and amount payable to the party as designated in the advertisement inviting proposals, to be retained by and become the property of the owner of the work in the event the undersigned shall fail to execute the contract and contract bond and return the same to the office of the engineer within fourteen (14) days after having been notified in writing to do so; otherwise to be returned.

The bidder declares that they understand that the estimate of quantities in the attached schedule is approximate only and that the attached quantities may be greater or less in accordance with the specifications.

The bidder agrees to perform the said work, for and in consideration of the payment of the amount becoming due on account of work performed, according to the unit prices bid in the following schedule, and to accept such amounts in full payment of said work.

The bidder declares that all of the said work will be performed at their own proper cost and expense, that they will furnish all necessary materials, labor, tools, machinery, apparatus, and other means of construction in the manner provided in the applicable specifications and the approved plans for the work together with all standard and special designs that may be designed on such plans, and the special provisions in the contract of which this proposal will become a part, if and when accepted. The bidder further agrees that the applicable specifications and all plans and working drawings are made a part hereof, as fully and completely as if attached hereto.

The bidder, if awarded the contract, agrees to begin the work not later than ten (10) days after the date of written notification from the engineer to do so, unless otherwise stipulated in the special provisions.

The bidder declares that if they are awarded the contract, they will execute the contract agreement and begin and complete the work within the time named herein, and they will file a good and sufficient surety bond for the amount of the contract for performance and also for the full amount of the contract for payment.

The bidder, if awarded the contract, shall pay all claims as required by Section 779.14, Statutes of Wisconsin, and shall be subject to and discharge all liabilities for injuries pursuant to Chapter 102 of the Statutes of Wisconsin, and all acts amendatory thereto. They shall further be responsible for any damages to property or injury to persons occurring through their own negligence or that of their employees or agents, incident to the performance of work under this contract, pursuant to the Standard Specifications for Road and Bridge Construction applicable to this contract.

In connection with the performance of work under this contract, the contractor agrees to comply with all applicable state and federal statutes relating to non-discrimination in employment. No otherwise qualified person shall be excluded from employment or otherwise be subject to discrimination in employment in any manner on the basis of age, race, religion, color, gender, national origin or ancestry, disability, arrest or conviction record (in keeping with s.111.32), sexual orientation, marital status, membership in the military reserve, honesty testing, genetic testing, and outside use of lawful products. This provision shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship. The contractor further agrees to ensure equal opportunity in employment to all applicants and employees and to take affirmative action to attain a representative workforce.

The contractor agrees to post notices and posters setting forth the provisions of the nondiscrimination clause, in a conspicuous and easily accessible place, available for employees and applicants for employment.

If a state public official (section 19.42, Stats.) or an organization in which a state public official holds at least a 10% interest is a party to this agreement, this contract is voidable by the state unless appropriate disclosure is made to the State of Wisconsin Ethics Board.

Effective with August 2007 Letting

BID PREPARATION

Preparing the Proposal Schedule of Items

A General

(1) Obtain bidding proposals as specified in section 102 of the standard specifications prior to 11:45 AM of the last business day preceding the letting. Submit bidding proposals using one of the following methods:

1. Electronic bid on the internet.
2. Electronic bid on a printout with accompanying diskette or CD ROM.
3. Paper bid under a waiver of the electronic submittal requirements.

(2) Bids submitted on a printout with accompanying diskette or CD ROM or paper bids submitted under a waiver of the electronic submittal requirements govern over bids submitted on the internet.

(3) The department will provide bidding information through the department's web site at http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm. The contractor is responsible for reviewing this web site for general notices as well as information regarding proposals in each letting. The department will also post special notices of all addenda to each proposal through this web site no later than 4:00 P.M. local time on the Thursday before the letting. Check the department's web site after 5:00 P.M. local time on the Thursday before the letting to ensure all addenda have been accounted for before preparing the bid. When bidding using methods 1 and 2 above, check the Bid Express™ on-line bidding exchange at http://www.bidx.com/ after 5:00 P.M. local time on the Thursday before the letting to ensure that the latest schedule of items Expedite file (*.ebs or *.00x) is used to submit the final bid.

(4) Interested parties can subscribe to the Bid Express™ on-line bidding exchange by following the instructions provided at the www.bidx.com web site or by contacting:

Info Tech Inc.
5700 SW 34th Street, Suite 1235
Gainesville, FL 32608-5371
email: mailto:customer.support@bidx.com

(5) The department will address equipment and process failures, if the bidder can demonstrate that those failures were beyond their control.

(6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the departments web site listed above or by picking up the addenda at the Bureau of Highway Construction, Room 601, 4802 Sheboygan Avenue, Madison, WI, during regular business hours.

B Submitting Electronic Bids

B.1 On the Internet

(1) Do the following before submitting the bid:

1. Have a properly executed annual bid bond on file with the department.
2. Have a digital ID on file with and enabled by Info Tech Inc. Using this digital ID will constitute the bidder's signature for proper execution of the bidding proposal.

(2) In lieu of preparing, delivering, and submitting the proposal as specified in 102.6 and 102.9 of the standard specifications, submit the proposal on the internet as follows:

1. Download the latest schedule of items reflecting all addenda from the Bid Express™ web site.
2. Use Expedite™ software to enter a unit price for every item in the schedule of items.
3. Submit the bid according to the requirements of Expedite™ software and the Bid Express™ web site. Do not submit a bid on a printout with accompanying diskette or CD ROM or a paper bid. If the bidder does submit a bid on a printout with accompanying diskette or a paper bid in addition to the internet submittal, the department will disregard the internet bid.
4. Submit the bid before the hour and date the Notice to Contractors designates.
5. Do not sign, notarize, and return the bidding proposal described in 102.2 of the standard specifications.

(3) The department will not consider the bid accepted until the hour and date the Notice to Contractors designates.

B.2 On a Printout with Accompanying Diskette or CD ROM

(1) Download the latest schedule of items from the Wisconsin pages of the Bid Express™ web site reflecting the latest addenda posted on the department's web site at **http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm**. Use Expedite ™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.

(2) Staple an 8 1/2 by 11 inch printout of the Expedite™ generated schedule of items to the other proposal documents submitted to the department as a part of the bidder's sealed bid. As a separate submittal not in the sealed bid envelop but due at the same time and place as the sealed bid, also provide the Expedite™ generated schedule of items on a 3 1/2 inch computer diskette or CD ROM. Label each diskette or CD ROM with the bidder's name, the 4 character department-assigned bidder identification code from the top of the bidding proposal, and a list of the proposal numbers included on that diskette or CD ROM as indicated in the following example:

Bidder Name

BN00

Proposals: 1, 12, 14, & 22

(3) If bidding on more than one proposal in the letting, the bidder may include all proposals for that letting on one diskette or CD ROM. Include only submitted proposals with no incomplete or other files on the diskette or CD ROM.

(4) The bidder-submitted printout of the Expedite™ generated schedule of items is the governing contract document and must conform to the requirements of section 102 of the standard specifications. If a printout needs to be altered, cross out the printed information with ink or typewriter and enter the new information and initial it in ink. If there is a discrepancy between the printout and the diskette or CD ROM, the department will analyze the bid using the printout information.

(5) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:

1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.

3. The diskette or CD ROM is not submitted at the time and place the department designates.

C Waiver of Electronic Submittal

(1) The bidder may request a waiver of the electronic submittal requirements. Submit a written request for a waiver in lieu of bids submitted on the internet or on a printout with accompanying diskette or CD ROM. Use the waiver that was included with the paper bid document sent to the bidder or type up a waiver on the bidder's letterhead. The department will waive the electronic submittal requirements for a bidding entity (individual, partnership, joint venture, corporation, or limited liability company) for up to 4 individual proposals in a calendar year. The department may allow additional waivers for equipment malfunctions.

(2) Submit a schedule of items on paper conforming to section 102 of the standard specifications. The department charges the bidder a $75 administrative fee per proposal, payable at the time and place the department designates for receiving bids, to cover the costs of data entry. The department will accept a check or money order payable to: "Wisconsin, Dept. of Transportation."

(3) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:

1. The bidder fails to provide the written request for waiver of the electronic submittal requirements.
2. The bidder fails to pay the $75 administrative fee before the time the department designates for the opening of bids unless the bidder requests on the waiver that they be billed for the $75.
3. The bidder exceeds 4 waivers of electronic submittal requirements within a calendar year.

(4) In addition to the reasons specified in section 102 of the standard specifications, the department may refuse to issue bidding proposals for future contracts to a bidding entity that owes the department administrative fees for a waiver of electronic submittal requirements.

PROPOSAL BID BOND

Wisconsin Department of Transportation

DT1303 1/2006

Proposal Number	Project Number	Letting Date
Name of Principal		
Name of Surety	State in Which Surety is Organized	

We, the above-named Principal and the above-named Surety, are held and firmly bound unto the State of Wisconsin in the sum equal to the Proposal Guaranty for the total bid submitted for the payment to be made; we jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. The condition of this obligation is that the Principal has submitted a bid proposal to the State of Wisconsin acting through the Department of Transportation for the improvement designated by the Proposal Number and Letting Date indicated above.

If the Principal is awarded the contract and, within the time and manner required by law after the prescribed forms are presented for signature, enters into a written contract in accordance with the bid, and files the bond with the Department of Transportation to guarantee faithful performance and payment for labor and materials, as required by law, or if the Department of Transportation shall reject all bids for the work described, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect. In the event of failure of the Principal to enter into the contract or give the specified bond, the Principal shall pay to the Department of Transportation **within 10 business days of demand** a total equal to the Proposal Guaranty as liquidated damages; the liability of the Surety continues for the full amount of the obligation as stated until the obligation is paid in full.

The Surety, for value received, agrees that the obligations of it and its bond shall not be impaired or affected by any extension of time within which the Department of Transportation may accept the bid; and the Surety does waive notice of any such extension.

IN WITNESS, the Principal and Surety have agreed and have signed by their proper officers and have caused their corporate seals to be affixed this date: **(DATE MUST BE ENTERED)**

PRINCIPAL

(Company Name) **(Affix Corporate Seal)**

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

NOTARY FOR PRINCIPAL

(Date)

State of Wisconsin)
) ss.
_____ County)

On the above date, this instrument was acknowledged before me by the named person(s).

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State of Wisconsin)

(Date Commission Expires)

Notary Seal

(Name of Surety) **(Affix Seal)**

(Signature of Attorney-in-Fact)

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

On the above date, this instrument was acknowledged before me by the named person(s).

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State of Wisconsin)

(Date Commission Expires)

Notary Seal

IMPORTANT: A certified copy of Power of Attorney of the signatory agent must be attached to the bid bond.

CERTIFICATE OF ANNUAL BID BOND

Wisconsin Department of Transportation

DT1305 8/2003

Time Period Valid (From/To)
Name of Surety
Name of Contractor
Certificate Holder Wisconsin Department of Transportation

This is to certify that an annual bid bond issued by the above-named Surety is currently on file with the Wisconsin Department of Transportation.

This certificate is issued as a matter of information and conveys no rights upon the certificate holder and does not amend, extend or alter the coverage of the annual bid bond.

Cancellation: Should the above policy be cancelled before the expiration date, the issuing surety will give thirty (30) days written notice to the certificate holder indicated above.

(Signature of Authorized Contractor Representative) (Date)

FEBRUARY 1999

LIST OF SUBCONTRACTORS

Section 66.29(7), Wisconsin Statutes, provides that a bidder, as a part of his proposal, shall submit a list of the subcontractors he proposes to contract with and the class of work to be performed by each, provided that to qualify for such listing each subcontractor must first submit his bid in writing to the general contractor at least 48 hours prior to the time of bid closing. It further provides that a proposal of a bidder shall not be invalid if any subcontractor, and the class of work to be performed by such subcontractor, has been omitted from a proposal.

No subcontract, whether listed herein or later proposed, may be entered into without the written consent of the Engineer as provided in Subsection 108.1 of the Standard Specifications.

Name of Subcontractor	Class of Work	Estimated Value
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DECEMBER 2000

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS - PRIMARY COVERED TRANSACTIONS

Instructions for Certification

1. By signing and submitting this proposal, the prospective contractor is providing the certification set out below.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective contractor shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective contractor to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department determined to enter into this transaction. If it is later determined that the contractor knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government the department may terminate this transaction for cause or default.

4. The prospective contractor shall provide immediate written notice to the department to whom this proposal is submitted if at any time the prospective contractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

6. The prospective contractor agrees by submitting this proposal that, should this contract be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department entering into this transaction.

7. The prospective contractor further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," which is included as an addendum to PR-1273 - "Required Contract Provisions Federal Aid Construction Contracts," without

modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

8. The contractor may rely upon a certification of a prospective subcontractor/materials supplier that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A contractor may decide the method and frequency by which it determines the eligibility of its principals. Each contractor may, but is not required to, check the Disapproval List (telephone # 608/266/1631).

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph 6 of these instructions, if a contractor in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions

(1) The prospective contractor certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offense enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective contractor is unable to certify to any of the statements in this certification, such prospective contractor shall attach an explanation to this proposal.

Special Provisions

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 1390-04-80, Janesville - Fort Atkinson Road, CTH N to S. Fort Interchange, STH 26, Rock and Jefferson Counties, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2013 Edition, as published by the department, and these special provisions.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.
100-005 (20120615)

2. Scope of Work.

The work under this contract shall consist of grading; borrow excavation; select crushed material; base aggregate dense; culvert pipe; storm sewer; concrete pavement; HMA pavement; concrete curb and gutter; concrete sidewalk; barrier wall, beam guard; pavement marking; signing; Structures C-28-32, B-28-131, B-28-132, and R-28-30 and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.
104-005 (20090901)

3. Prosecution and Progress.

Begin work within ten calendar days after the engineer issues a written notice to do so.

Provide the start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the approved start date.

To revise the start date, submit a written request to the engineer at least two weeks before the intended start date. The engineer will approve or deny that request based on the conditions cited in the request and its effect on the department's scheduled resources.

Meet weekly with the engineer to review progress on the project. At these meetings, present a current, updated project schedule and discuss all proposed activities in detail for the upcoming 2-week time period.

Provide the Erosion Control Implementation Plan (ECIP) 14 days prior to the Pre-Construction meeting. This shall also include all work associated with the Otter Creek Stream relocation.

Loaded trucks or scrapers are not allowed to cross structures until at least 30 days after completion of the structure. Loads will be limited to maximum standard highway load limits.

Place 6-Inches of Base Aggregate Dense 3-Inch over any subgrade or place 3-inches of Base Aggregate Dense 1 ¼-inch over any Select Crushed Material placed as subgrade prior to November 15 of each winter season.

All erosion control measures, including seeding (permanent and temporary), shall be in place and established prior to suspending construction operations.

There shall not be any in stream disturbance to Unnamed Creek that flows through box culvert C-28-32 between March 15th and June 15th of each calendar year per DNR requirements.

There is an existing covered bridge on the multi-use path from approximately Station 391+94 'BP1' to Station 392+51 'BP1'. Construction equipment is not allowed to cross this existing bridge. The contractor shall take special care when working in this area as to not disturb this bridge.

The contract time for completion is based on an expedited work scheduled and may require extraordinary forces and equipment. Included in this "Prosecution and Progress" special provision are interim and final completion dates. These dates indicate that work efforts will possibly require multiple or concurrent controlling operations to occur at the same time. This information is included to assist the contractor and its subcontractors and shall not be interpreted as a demonstration of specific means and methods or work periods other than intermediate and completion dates.

Prior to beginning operations under this contract, submit in writing the proposed schedule of operations to the engineer for approval.

Stage 1b: Mainline STH 26 and multi-use path from Station 550+00 – 585+00, CTH N ramps E through H, and 'AH' from 0+00 – 8+00 will not be available until the January 1, 2014.

Stage 2 construction and staging shall not begin prior to the March 3, 2014.

Vickerman Road, Garvert Lane, access to Koshkonong Lake Road, Old 26 under Structure B-28-131, and the existing multi-use path must remain open at all times.

Complete all work including all asphalt paving, shoulder work, curb and gutter, structures, beam guard, approach slabs, permanent signing, and pavement marking on

Whitetail Lane, Old 26 'NC', Garvert Lane, Pond Road (Station 34+00-41+00), East Jug Handle 'JE', Vickerman Road, Old 26 'DS', County Line Road west of STH 26, and all temporary connections to STH 26 prior to 12:01 AM October 12, 2013.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to open Whitetail Lane, Old 26 'NC', Garvert Lane, Pond Road (Station 34+00-41+00), East Jug Handle 'JE', Vickerman Road, Old 26 'DS', County Line Road west of 26, and all temporary connections to STH 26 prior to 12:01 AM October 12, 2013 the department will assess the contractor $1,155 in interim liquidated damages for each calendar day that the roadway remains closed after 12:01 AM, October 12, 2013. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

Complete the following work in Stage 2 prior to 12:01 AM May 17, 2014 on Koshkonong Lake Road (Station 14+00 – 18+00), West Jug Handle 'JW', Old 26 'DN' (Station 14+00 – 27+00) and temporary connection from West Jug Handle 'JW' to STH 26: all paving, shoulder work, curb and gutter, permanent signing, and pavement marking.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to open Koshkonong Lake Road (Station 14+00 – 18+00), West Jug Handle 'JW', Old 26 'DN' (Station 14+00 – 27+00) and temporary connection from West Jug Handle 'JW' to STH 26 prior to 12:01 AM, May 17, 2014 the department will assess the contractor $1,155 in interim liquidated damages for each calendar day that the roadway remains closed after 12:01 AM, May 17, 2014. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

Use the temporary driveway access from Old 26 'NC' to STH 26 for a maximum of 15 calendar days. Upon closing Old 26 'W' and 'NC', do not reopen Old 26 'W' west of STH 26 and 'NC' Roads until all grading, culvert pipes, and base have been completed. A detour will not be posted for this closure as part of this project, however temporary access must be maintained as shown on the plans for 'NC' at all times. Remove the temporary access to 'NC' from STH 26 immediately after completing.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to reopen Old 26 'W' west of STH 26 and 'NC' within 15 calendar days to traffic the department will assess the contractor $1,155 in interim liquidated damages for each calendar day that the roadway remains closed beyond 15 calendar days. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

Switch STH 26 traffic to Stage 3 as shown in traffic control plans prior to 12:01AM September 13, 2014. This work includes all concrete pavement, shoulder work, curb and gutter, permanent signing, pavement marking, beam guard, concrete barrier, structures, and incidentals necessary to switch STH 26 traffic stage 3 as shown in the plans.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to switch STH 26 traffic to stage 3 as shown in traffic control plans prior to 12:01 AM September 13, 2014 the department will assess the contractor $1,155 in interim liquidated damages for each calendar day that the roadway remains closed after 12:01 AM, September 13, 2014. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

Detour CTH J as shown in the plans for a maximum of 14 calendar days during replacement of the east approach slab.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary to reopen CTH J within 14 calendar days to traffic the department will assess the contractor $1,155 in interim liquidated damages for each calendar day that the roadway remains closed beyond 14 calendar days. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

Complete pavement repair on northbound STH 26, Jefferson bypass between CTH W and CTH J using single lane closures for a maximum of 21 consecutive calendar days. Pavement must be replaced the same day it is removed.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the work necessary repair the pavement on northbound STH 26 between CTH W and CTH J within 21 calendar days to reopen STH 26 traffic to four lanes the department will assess the contractor $1,155 in interim liquidated damages for each calendar day that the roadway remains closed beyond 21 calendar days. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

The department will not grant time extensions to the interim completion dates specified above for the following:

1. Severe weather as specified in standard spec 108.10.2.2.
2. Labor disputes that are not industry wide.
3. Delays in material deliveries.

If contract time expires prior to completing all work specified in the contract, additional liquidated damages will be affixed in accordance to standard spec 108.11.

4. Traffic.

General
Keep STH 26 open two lanes of traffic at all times during construction as shown in the traffic control plans and as described below.

A.1 Overview
The following is a general overview of the traffic control and staging required throughout all stages of the project. The staging requirements are described further in the "Prosecution and Progress" articles in these special provisions.

Submit a detailed traffic control plan to the engineer for approval if different than the traffic control plan provided in the plan set. Submit this plan ten days prior to the pre-construction conference.

Monitoring and replacing any misplaced or damaged traffic control devices either in use or over winter shall be incidental to the Traffic Control (Project) bid item and shall be performed until the final completion date.

Traffic Operations during Koshkonong Lake and Pond Road Construction

Close Pond Road during Stage 1 construction with no posted detour. Place Portable Changeable Message Signs at the east construction limits on Pond Road and on STH 26 north and south of the intersection 10 calendar days prior to construction. Obtain approval from the engineer for the exact locations of the signs. The sign shall inform drivers of the upcoming road closure during the 10 days prior to construction.

Vickerman Road and County Line Road east of STH 26 shall remain open at all times during closure of Pond Road.

Use shoulder closure on STH 26 during removal of old Pond Road and STH 26 intersection. This shoulder closure shall stay in place until new gravel shoulder has been installed.

County Line Road west of STH 26, Old 26 'DS', West Jug Handle 'JW', Old 26 'DN' and Whitetail Lane shall remain open at all times during closure of Koshkonong Lake Road east of West Jug Handle 'JW'. Access to Koshkonong Lake Road must be maintained at all times.

Do not close Koshkonong Lake Road east of 'JW' until the following work is completed on the west Jug Handle 'JW' and Old 26 'DN': all paving, shoulder work, curb and gutter, permanent signing, and pavement marking.

Close Koshkonong Lake Road east of 'JW' during Stage 2 construction with no posted detour. Place Portable Changeable Message Signs at the west construction limits on Koshkonong Lake Road and on STH 26 north and south of the intersection 10 calendar

days prior to construction. Obtain approval from the engineer for the exact locations of the signs. The sign shall inform drivers of the upcoming road closure and detour during the 10 days prior to construction.

Use shoulder closure on STH 26 during pier construction of B-28-131. This shoulder closure, including temporary precast barrier wall, shall stay in place until beam guard and cable guard has been installed.

During placement of the girders for Structure B-28-131, STH 26 traffic may be stopped for up to 15 minutes between the hours of 7:00 PM – 5:00 AM, Sunday through Thursday. All stoppages must be approved by the engineer. In addition notify the state patrol and local emergency authorities 72 hours prior to stopping traffic on STH 26. Provide adequate warning for the traveling public via Portable Changeable Message Signs and lighting to ensure the traveling public is aware of this closure.

Hauling operations across STH 26 using a flagging operation will only be permitted between the hours of 7:00 PM – 5:00 AM, Sunday through Thursday.

Traffic Operations During Whitetail Lane and Old 26 cul du sac 'NC' Construction

Close Old 26 west of STH 26 'W' during construction with no posted detour. Place Portable Changeable Message Signs on Old 26 and on STH 26 north and south of the intersection 10 calendar days prior to construction. Obtain approval from the engineer for the exact locations of the signs. The sign shall inform drivers of the upcoming road closure and detour during the 10 days prior to construction.

Temporary access must be maintained as shown on the plans for 'NC' at all times. Inform all adjacent property owners on 'NC' in writing five working days prior to moving their access(s) on 'NC' to STH 26.

Use shoulder closure on STH 26 during pier construction of B-28-132. This shoulder closure, including temporary precast barrier wall, shall stay in place until beam guard and cable guard has been installed.

During placement of the girders for Structure B-28-132, STH 26 traffic may be stopped for up to 15 minutes between the hours of 7:00 PM – 5:00 AM, Sunday through Thursday. All stoppages must be approved by the engineer. In addition notify the state patrol and local emergency authorities 72 hours prior to stopping traffic on STH 26. Provide adequate warning for the traveling public via Portable Changeable Message Signs and lighting to ensure the traveling public is aware of this closure.

Hauling operations across STH 26 using a flagging operation will only be permitted between the hours of 7:00 PM – 5:00 AM, Sunday through Thursday.

Traffic Operations During STH 26 construction

Stage 1a

- Maintain traffic on existing STH 26 with various shoulder closures.
- Complete STH 26 southbound lanes and multi-use path between Station 585+00 and Station 658+00. STH 26 between Station 550+00 and Station 585+00 will be unavailable until January 1, 2014 (Stage 1b).
- Complete STH 26 northbound lanes between Station 655+00 and Station 820+00.
- Complete Old 26 'DS' and County Line Road west of STH 26.
- Complete Structure C-28-32.
- Complete Vickerman Road connection.
- Complete East Jug Handle 'JE' and Pond Road between Station 34+00 and Station 41+00.
- Complete Structures B-28-132 and R-28-30.
- Complete Whitetail Lane 'W', Old 26 'NC', and Garvert Lane.
- Construct crossovers XOJ1, XOJ2, and XOJ3.

Stage 1b (Cannot begin prior to January 1, 2014.)

- Complete STH 26 southbound lanes and multi-use path between Station 576+00 and Station 585+00.
- Complete Temporary ramp crossover XON3 for CTH N northbound STH 26 entrance ramp.

Stage 2

- This stage shall not begin prior to March 3, 2014.
- Maintain traffic on STH 26 on the new lanes and crossovers constructed during Stage 1 with varies shoulder closures.
- Complete STH 26 northbound lanes between Station 576+00 – 655+00.
- Complete STH 26 southbound lanes between 658+00 and 831+81.
- Complete remainder of CTH N Ramp 'H'.
- Complete Traynor Ct Frontage Road 'AH'.
- Complete County Line Road and 'BR' alignment east of STH 26.
- Complete Hamer Lane.
- Complete West Jug Handle 'JW', Old 26 'DN', Koshkonong Lake Road, Pond Road and Structure B-28-131.
- Complete Multi-use path between Station 658+00 to Station 825+00.

Stage 3

- Maintain traffic on the northbound and southbound lanes while closing the median lanes for STH 26.
- Complete any remaining work at median crossovers, left turn lanes; County Line Road median intersection and left turn lanes, and Vickerman Road median turn lanes and crossover.
- Remove crossovers XON1, XON2, XON3, XON5, XOJ1, XOJ2, and XOJ3

CTH J east approach slab replacement:

- Detour traffic for a maximum of 14 calendar days using detour detailed in plans to replace the existing east approach slab of CTH J over STH 26 (Jefferson Bypass). Place a Portable Changeable Message Sign at the nearest major intersection either side of the closure 10 calendar days prior to closure.

Existing Pavement Repair on STH 26 Jefferson Bypass

- Repair existing concrete pavement on northbound STH 26 Jefferson Bypass between CTH W and CTH J using a single lane closure. Lane closures on STH 26 will be allowed for a maximum of 21 consecutive calendar days. The contractor shall replace pavement the same day it is removed.

Town Line Road Structure over STH 26 epoxy overlay

- Close Town Line Road at Structure over STH 26 for a maximum of 4 calendar days to place the epoxy overlay on the structure and approach slabs. Centerline pavement markings must be installed prior to opening to traffic. Place a Portable Changeable Message Sign at the nearest major intersection either side of the closure 7 calendar days prior to closure.

B Local Traffic Access to Project

Maintain local traffic access during the construction of STH 26, Ahrens Frontage Road 'AH', County Line Road, Koshkong Lake Road, Old 26 'DS', Old 26 'DN', Old 26 'NC', Old 26 'W', and Groeler Road. Stage construction activities as required to maintain local traffic access.

B.1 Requirements for Local Access Traffic Control

B.1.1 General

Construct and maintain a local traffic access route on any section of roadway that will carry only local traffic conforming to the following criteria:

- Number of Lanes: One lane in each direction
- Lane Width: Minimum of 10 foot width
- Driving Surface: Acceptable driving surfaces include asphaltic surface temporary, HMA pavement, concrete pavement, 6 inches of compacted and uniform base aggregate dense.

B.1.2 Traffic Control Devices

Place roadway and sidewalk signing and roadway temporary or permanent pavement marking, and channelizing devices, in conformance with the plans and the Wisconsin Manual on Uniform Traffic Control Devices (MUTCD), latest edition. Traffic control devices shall be completely in place by the end of the working day of a traffic switch.

C Property Access

Maintain access to properties along the project for local residents, businesses, and emergency vehicles. Access to all driveways and parking lots where alternative access is not available shall remain open at all times. Concrete curb and gutter, culvert pipe, and

concrete driveway construction shall be staged to maintain driveway access. Keep business entrances open by partial driveway construction or by closing only one access at a time for properties with multiple driveways. Construct temporary commercial entrances including a crushed aggregate surface within 24 hours of removal. Combine temporary commercial entrances wherever practical to minimize the number of access locations.

Driveways at Station 775+50 and Station 795+00 shall be completed as shown in the plans including base aggregate dense within 3 calendar days of disturbance. Temporary access shall be maintained at all times during construction of these driveways. Property owners shall be notified at least 48 hours prior to disruption of their driveways.

Inform all adjacent property owners two working days prior to closing their access(es). Maintaining property access as described above is considered incidental to the Traffic Control (Project) bid item.

D Advance Notification

Notify the City of Fort Atkinson Police Department and Fire Department, Rock and Jefferson County Sheriff's Departments, Wisconsin State Patrol, Milton and Fort Atkinson School Districts, Milton and Fort Atkinson Post Offices, Town of Milton, Town of Koshkonong, and City of Fort Atkinson, 48 hours in advance of the start of work, closures of existing streets, and prior to traffic control changes. Notifications must be given by 4:00 PM on Thursday for any such work to be done on the following Monday. Advance notification as described above is considered incidental to the Traffic Control (Project) bid item.

E Construction Activities

Coordinate and stage all construction activities within the areas of local traffic routes, as required to maintain a traveled way conforming to all above requirements.

Use drums and barricades to direct local vehicular and pedestrian traffic in the work zone and to protect and delineate hazards such as open excavations, abrupt drop-offs, and exposed manholes, inlets, hydrants, etc. The use of such devices shall be incidental to the operation which creates the hazard.

5. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying STH 26 traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights, and any other material that might impede the free flow of traffic during the following holiday periods:

- From noon Friday, May 24, 2013 to 6:00 AM Tuesday, May 28, 2013 for Memorial Day;
- From noon Wednesday July 3, 2013 to 6:00 AM Friday July 5, 2013 for Independence Day;

- From noon Friday, August 30 2013 to 6:00 AM Tuesday, September 3, 2013 for Labor Day;
- From noon Wednesday, November 27 2013 to 6:00 AM Monday, December 2, 2013 for Thanksgiving;
- From noon Friday, May 23, 2014 to 6:00 AM Tuesday, May 27, 2014 for Memorial Day;
- From noon Thursday, July 3, 2014 to 6:00 AM Monday, July 7, 2014 for Independence Day;
- From noon Friday, August 29, 2014 to 6:00 AM Tuesday, September 2, 2014 for Labor Day;
- From noon Wednesday, November 26, 2014 to 6:00 AM Monday, December 1, 2014 for Thanksgiving.

107-005 (20050502)

6. Utilities.

T contract comes under the provisions of Administrative Rule TRANS 220. (090208) 107-065
On this project Administrative Rule TRANS 220 utility coordination process was followed.

There are underground and overhead utility facilities located within the project limits. The contractor shall coordinate their construction activities with a call to Diggers Hotline or a direct call to the utilities that have facilities in the area as required per statues. The contractor shall use caution to ensure the integrity of the underground facilities and shall maintain code clearances from overhead facilities at all times.

AT&T Wisconsin
Mainline STH 26
There is an existing crossing at approximately Station 710+75 that will be abandoned. This new crossing will be placed at approximately 710+80 below the proposed construction limits and a new pedestal will be placed along the east right-of-way and a new cable will be placed to the existing west pedestal. From Station 710+80 – 712+75 RT the existing cable will be abandoned and relocated to the east proposed right-of-way of STH 26 and South proposed right-of-way of Vickerman Road outside the proposed construction limits.

The existing crossing at approximately Station 744+75 – 745+00 LT-RT will be abandoned. A new line will be underbuilt on We Energies Electric poles that will cross at approximately Station 742+68.

The existing cable from 768+14 – 794+10 RT will be abandoned. A new pedestal will be placed at 794+10 RT outside the slope intercept. A new copper line will be placed along the east right-of-way line from 794+10 RT to 811+10 RT. The existing crossing at approximately 810+00 – 811+50 LT-RT will be abandoned and a new bored cable

crossing will be placed at approximately 811+50 below the proposed construction with new pedestals and splice along the west and east proposed right-of-way lines.

This work will be completed by April 1, 2013. No Conflicts anticipated.

County Line Road 'CLN'
Existing buried cable from Station 37+35 – Station 38+50 LT-RT will be abandoned and closure splice will be placed outside proposed construction at 38+00 RT.

Construction will be complete by April 1, 2013, No conflicts are anticipated.

Vickerman Road 'V'
The existing buried cable from Station 31+50 – 34+50 will be abandoned and a new buried cable will be relocated to the south proposed right-of-way line outside the proposed construction limits.

Construction will be complete by April 1, 2013, No conflicts are anticipated.

Old 26 'DN' and West Connector Road 'JW'
The existing cable along Old 26 'DN' between 14+30 'DN' RT – 28+90 'DN' RT will be abandoned. A new line will be bored approximately 10' east of the existing line at a depth of approximately 7' from Station 14+30 'DN' RT to Station 28+90 'DN' RT. A new crossing will be bored underneath Old 26 at approximately 14+30 'DN to provide service to the residence on the west side of Old 26. At 28+90 'DN' (739+07, 225' LT) this line will riser up and be under built on We Energies electric's new poles to Station 741+64, 220' LT, where it will connect in with the conduits being placed under the proposed Koshkonong Lake Road bridge.

Construction will be complete by April 1, 2013, No conflicts are anticipated.

Koshkonong Lake / Pond Road 'P' and East Connector Road 'JE'
The buried cable(s) from Station 14+36 'P'RT – Station 25+00 'P' RT and from Station 25+00 'P' LT to Station 40+40 'P' LT will be abandoned. A new line will be under built on We Energies Electric new poles along the south right-of-way line from approximately Station 14+94 RT to Station 26+79 where the line will cross STH 26 at approximately 741+30 and continue across the east Connector Road at approximately Station 32+20 to the south right-of-way line of the east connector road 'JE' at approx Station 33+00 'JE' RT. This line will then continue along the south right-of-way line of 'JE' to the south right-of-way of Pond Road 'P' at approximately Station 37+90 'P' RT and cross to the north right-of-way of Pond Road 'P' to the existing pole at Station 40+40 'P' LT. A riser will be placed at 40+40 'P' LT where it will connect into the existing underground cable at this location.

A new buried crossing will be bored below proposed construction limits with WE Energies crossing across Koshkonong Lake Road 'P' at approximately 18+29 'P'.

A new buried crossing will be bored below proposed construction limits on Koshkonong Lake Road ‘P’ from approximately 20+95 ‘P’ RT to 21+50 ‘P’ RT where it will connect into an existing line that will remain in place at approximately 21+50 ‘P’. The contractor shall take extra care while working around this existing cable.

New conduits will be placed across Koshkonong Lake Road underneath proposed structure from approximately Station 28+23 ‘P’ 176’ LT to Station 26+79 ‘P’ 113’ RT along the west side of Old 26 ‘DN’.

Construction will be complete by April 1, 2013, No conflicts are anticipated.

Whitetail Lane ‘W’
The existing buried cable(s) from Station 19+50 ‘W’ – Station 26+00 ‘W’ RT-LT will be abandoned. A new line will be under built on We Energies electrics new poles along the NW right-of-way from Station 19+65 ‘W’ – 23+85 ‘W’ LT. This line will then be buried in a joint trench with We Energies Electric along the west right-of-way line of ‘W’ and ‘NC; from Station 23+85 ‘W’ LT to 38+61 ‘NC’ LT.

The existing crossings at Station 20+00 ‘W’ and 20+90 ‘W’ and associated pedestals will also be abandoned or removed. A new crossing will be bored at Station 19+65 ‘W’ and a new line will be buried along the east right-of-way line from Station 19+65 ‘W’ RT to Station 20+73 where a new pedestal will be installed. A new overhead crossing will be under-built on We Energies new crossing at Station 22+20.

Construction will be complete by April 1, 2013, No conflicts are anticipated.

The existing buried cable from 54+75 – 55+75 RT will remain in place.

Old 26 ‘NC’
The existing buried cable from Station 30+00 – Station 38+50 LT will be abandoned and a new buried cable and pedestals will be placed in a joint trench with We Energies Electric along the west right-of-way line.

Construction will be complete by April 1, 2013, No conflicts are anticipated.

Garvert Lane ‘GA’
The existing buried cable crossing 28+00 LT-RT will remain in place. No conflicts anticipated.

Contact for AT&T Wisconsin is Shane Levake (608) 755-5586, email is sl3184@att.com.

CenturyLink
CenturyLink has underground telephone facilities within the project limits from the south project limits to the Rock / Jefferson County Line.

Mainline STH 26
The existing buried telephone facilities have been relocated along the west right-of-way line of STH 26 from the south project limits to approximately Station 634+60. Crossings will be placed at approximately Station 602+00, 616+20, and 641+50. One line was also be placed along the proposed east right-of-way line from approximately Station 602+00, RT to 604+40 RT, and from Station 620+75 RT to Station 622+25 RT. A new buried line will also be placed along the west right-of-way line along Old 26 'DS' from approximately Station 6+25 to Station 14+20 where it will cross to the east side of STH 26 at Station 641+50 RT.

This work has been completed and no conflicts are anticipated.

County Line Road 'CLN' and Old 26 'DS'
Centurylink has an existing cable that runs on the north side of County Line Road west 'CLN' and along the east side of Old 26 'DS'. This line has been abandoned.

This work has been completed and no conflicts are anticipated.

Contact for CenturyLink is Steve Baldo 333 N. Front St. P.O. Box 4800, La Crosse, WI 54602, (608) 796-5543, email steve.baldo@centurylink.com.

Charter Communications
Charter Communications has underground and under-built aerial facilities within the project limits.

Mainline STH 26
There is an existing buried fiber optic cable that runs from approximately 643+00 RT to 742+00 RT. This line will be abandoned prior to construction and not replaced.

County Line Road 'CLN' and Old 26 'DS'-
The existing under built line and underground lines will be relocated to We Energies new poles that will be relocated to the proposed right-of-way lines. From the east grading limits to Station 37+00 the overhead electric will be placed along the north right-of-way line and continued west along the north side of Bar Road where it will cross STH 26 at 642+68 to the west side of Old 26 'DS'. The line will continue south along Old 26 'DS' then west along County Line Road 'CLS' to the existing pole at 11+59 'CLS' LT. No conflicts are anticipated. This work will be completed by April 1, 2013.

Old 26 'DS'
The existing cable and telephone line along Old 26 'DS' from Station 15+65 'DS' – Station 30+00 'DS' will be relocated by direct bury in a joint trench with We Energies Electric along the west right-of-way line.

Construction will be complete by April 1, 2013, No conflicts are anticipated.

Old 26 'DN' and West Connector Road 'JW'
The existing cable along Old 26 'DN' between 14+50 'DN' – 28+90 'DN' will be relocated to the west proposed right-of-way line of Old 26 'DN'. At 28+90 'DN' (739+07, 225' LT) this line will riser up and be under built on We Energies electric's new poles to Station 747+64, 159' LT.

The contractor shall contact Ron Fraise (920) 349-3202 ext. 103, mobile (920) 263-0015 a minimum of 48 hours prior to doing work in this area for Charter to have a watchdog on site during grading operations.

This work will be completed by April 1, 2013. No conflicts are anticipated.

Koshkonong Lake / Pond Road 'P' and East Connector Road 'JE'
The existing cable along 'P' will be under built on We Energies Electric's new poles from approximately Station 14+94 RT to Station 27+70 where the line will cross Koshkonong Lake Road 'P' at approximately 28+00. This line will be along the west side of Old 26 from approximately 33+90 'DN' (739+07, 225' LT) to Station 747+64, 159' LT. Extra care shall be taken when working around this line during the construction of Structure B-28-131.

A new buried crossing will be placed across Koshkonong Lake Road 'P' at approximately 18+29 'P' in a joint trench with We Energies Electric. A new crossing will also be placed on Koshkonong Lake Road 'P' at approximately 21+50 'P' in a joint trench with We Energies Electric. These lines will require the contractor to grade with care while working around them.

This work will be completed by April 1, 2013. No conflicts are anticipated.

Garvert Lane 'GA'
A new line will be directionally bored across Garvert Lane below the proposed grading limits at approximately 29+00 'GA'. This line will tie into a new line that will be direct buried along the east right-of-way line of Whitetail Lane from approximately 51+00 RT to 54+00 RT.

This work will be completed by April 1, 2013. No conflicts are anticipated.

The field contact is Ron Frase, N3760 CTH DJ, Juneau, WI 53039, (920) 349-3202 ext. 103, mobile (920) 263-0015, email Ron.frase@chartercom.com.

We Energies – Electric
We Energies have both underground as well as overhead electrical facilities located within the project limits. The approximate locations of their relocated facilities are described below.

Mainline STH 26
From Station 581+80 to Station 835+00 the existing poles will be relocated to the proposed right-of-way lines. From Station 581+80 to Station 643+00 the overhead electric will be relocated to the west right-of-way of STH 26. From Station 582+00 to 634+00 new poles will be placed near the west right-of-way line. Direct bury cable will be installed on the east side of STH 26 from approximately Station 599+43 to Station 602+20. Overhead crossings to the east side of STH 26 will be placed at approximately Station 582+00, Station 599+45, 605+25, 617+80, and 622+45, 643+10, 718+25, 742+68, 718+26, and 767+50. A new crossing at approximately Station 609+00 and Station 794+00 will be directionally bored under the current and proposed highway below the proposed grading limits. The existing crossing at 796+00 will be abandoned. There is an existing crossing that will remain at approximately Station 811+50 that will remain, and no conflicts are anticipated. The following approximate pole locations will be within the proposed grading limits and will require the contractor to grade around them:

- Station 581+82, 197‘ RT
- Station 584+60, 205’ LT
- Station 596+80, 186‘ LT
- Station 604+92, 200’ LT
- Station 607+37, 175‘ LT
- Station 628+65, 240’ LT
- Station 630+48, 216’ LT (Buried extra deep to accommodate cut. Contact We Energies a minimum of 3 days prior to grading around this pole)
- Station 642+68, 219’ LT
- Station 718+26, 84’ RT

Construction will be complete by April 1, 2013. No conflicts are anticipated.

County Line Road ‘CLN’
The existing poles along County Line Road will be relocated to the proposed right-of-way lines. From the east grading limits to Station 37+00 the overhead electric will be placed along the north right-of-way line and continued west along the north side of Bar Road where it will cross STH 26 at 642+68 to the west side of Old 26 ‘DS’. The line will continue south along Old 26 ‘DS’ then west along County Line Road ‘CLS’ to the existing pole at 11+59 ‘CLS’ LT.

Construction will be complete by April 1, 2013. No conflicts are anticipated.

Vickerman Road ‘V’
The existing poles along Vickerman Road will be re-located to the north right-of-way line of Vickerman Road. This new line will continue north along the east right-of-way line of STH 26 until it crosses STH 26 overhead at approximately Station 718+26.

Construction will be complete by April 1, 2013. No conflicts are anticipated.

Old 26 'DS'
The existing poles along Old 26 will be relocated to the west right of line along Old 26 'DS' from Station 0+00 to Station 15+65 LT. Two parallel electric lines will then be direct buried along the proposed west right-of-way line from Station 15+65 LT to Station 30+00 where it will be directionally bored to the existing electric line on the east side of Old 26 where it will be re-connected into the existing electric line.

Construction will be complete by April 1, 2013. No conflicts are anticipated.

Koshkonong Lake / Pond Road 'P' and East Connector Road 'JE'
The existing poles along 'P' will be relocated to the south right-of-way line from approximately Station 14+94 RT to Station 27+70 where the line will cross STH 26 at approximately 741+30 and continue across the east Connector Road at approximately Station 32+20 to the south right-of-way line of the east connector road 'JE' at approx Station 33+00 'JE' RT. This line will then continue along the south right-of-way line of 'JE' to the south right-of-way of Pond Road 'P' at approximately Station 37+90 'P' RT and cross to the north right-of-way of Pond Road 'P' to the existing pole at Station 40+40 'P' LT.

A new buried crossing will be placed across Koshkonong Lake Road 'P' at approximately 18+29 'P'. An existing crossing will be left in place on Koshkonong Lake Road 'P' at approximately 21+50 'P'. These lines will require the contractor to grade with care while working around them.

A new north/south line will also be placed across Koshkonong Lake Road 'P' at approximately 28+00. This line will be along the west side of Old 26 from approximately 28+50 'DN' to a new pole at 33+90 'DN'. Extra care shall be taken when working around this line during the construction of Structure B-28-131.

Construction will be complete by April 1, 2013. No conflicts are anticipated.

West Connector Road 'JW'
The existing buried eclectic line between the bike path and Old 26 will remain from the south of the proposed West Connector Road 'JW' to approximately Station 729+87. Two parallel new direct buried electric line will be placed from approximately Station 729+87, 199' LT to Station 733+70, 161' LT below proposed grading limits. The existing electric line will remain from Station 733+80 LT to 738+74 LT.

Construction will be complete by April 1, 2013. No conflicts are anticipated.

Whitetail Lane 'W' and Old 26 'NC'
The existing poles along 'W' from Station 19+65 'W' to STH 26 will be relocated to the NW right-of-way line from Station 19+65 'W' LT to Station 23+85 'W' LT. Some of these poles will be close or within the proposed grading limits and may require special grading around them. An overhead crossing will be placed at 22+05 'W'. This line will

then be direct buried along the west right-of-way line of 'W' and 'NC; from Station 23+85 'W' LT to 38+61 'NC' LT.

Construction will be complete by April 1, 2013. No conflicts are anticipated.

The existing buried line along the south right-of-way line of Whitetail Lane from Station 30+00 to Station 51+00 will remain and no conflicts are anticipated. Once grading is complete, but prior to restoration along Whitetail Lane, We Energies will bore a new electric line from approximately 31+25, 134' RT to 36+00, 115' RT. Contact WE energies 48 hours prior to grading completion in this area.

Garvert Lane 'GA'
A new line will be directionally bored across Garvert Lane below the proposed grading limits at approximately 29+00 'GA'. This line will tie into a new line that will be direct buried along the east right-of-way line of Whitetail Lane from approximately 51+00 RT to 54+00 RT.

Construction will be complete by April 1, 2013. No conflicts are anticipated.

Contact for We Energies - Electric is Mike Ray (262) 968-5769, email michael.ray@we-energies.com.

We Energies - Gas
We Energies gas has facilities located within the project limits.

County Line Road 'CLN' and Old 26 'DS'
The existing gas line along County Line Road will be replaced and bored under STH 26 approximately 28' north of the Rock / Jefferson County Line between 18+00 'CW' to the Stage Coach Inn with a 2" gas line.

The existing gas line along Old 26 will be replaced and relocated to the west right-of-way line of proposed Old 26 'DS' from Station 12+90 'DS' – 29+00 'DS with a 4" gas line.

This work will be completed by April 1, 2013. No conflicts with this line are anticipated.

Old 26 'DN' and West Connector Road 'JW'
The existing gas line along Old 26 'DN' between 14+50 'DN' – 26+35 'DN' will be relocated to the west proposed right-of-way line of Old 26 'DN' with 4" gas line.

This work will be completed by April 1, 2013. No conflicts are anticipated.

Koshkonong Lake Road 'P'
The existing gas line along Koshkonong Lake Road 'P' will be relocated to the north proposed right-of-way line below the proposed construction between Station 14+10 'P' – Station 22+50 'P'. This line will be relocated by April 1, 2013. No conflicts with this line are anticipated.

The existing gas line along Koshkonong Lake Road 'P' between Station 22+50 – Station 27+50 LT will remain in place and is below proposed construction limits, however, the contractor shall grade carefully when working around this line. The existing valves and valve boxes along this location will need to be adjusted during construction as fill is brought in for proposed structure and roadway. This work is estimated to take 1 day unless the valve box is damaged during construction, this could add an additional day. Call We Energies gas a minimum of 14 days prior to needing adjustment and give a 3 day reminder notice to notify the utility that the site is ready for their adjustment.

Whitetail Lane 'W'
The existing gas line from Station 19+50 'W' to 26+00 'W' will remain in place. This line is below proposed construction limits, but will require the contractor to grade carefully when working around.

The existing gas line that crosses Whitetail lane 'W' at 50+75 'W' will be relocated and buried below the proposed construction limits.

This work will be completed by April 1, 2013. No conflicts are anticipated.

Old 26 at Whitetail Lane 'NC'
The existing gas line will remain in place between Station 30+50 'NC' – 38+50 'NC'. The gas line will be offset below proposed construction limits for proposed cross culverts at 33+75 'NC' and 35+50 'NC'.

This work will be completed by April 1, 2013. No conflicts with this line are anticipated.

In the event that these facilities are damaged or need adjustment, the contractor is responsible for calling WE energies at (800) 261-5325. The field contact is Joe Dable, 500 South 116th Street, West Allis, WI 53214, (414) 944-5543, mobile (414) 303-0310, email joe.dable@we-energies.com. We Energies-Gas emergency number is (800) 261-5325.

7. Other Contracts.

Project 1390-04-79, Town Line Road – CTH N began in spring 2012 and is located within the limits of this project. Work on project 1390-04-79 will occur concurrently with work under this project until its completion at the end of 2013.

8. Archaeological Cultural Resource Evaluation.

Sites or locations beyond the right-of-way that are proposed for borrow sites, batch plant sites, waste sites, or staging areas for this project are required to have an evaluation for archaeological significance. A department provided archaeologist will perform this evaluation including field review and sampling of site(s). Contact Lynn Cloud, (608) 266-0099 at the Bureau of Environment and Equity Services (BEES) at least 10

working days in advance to schedule an archaeological review and sampling of any proposed borrow site, batch plant site, waste site, or staging area.

If a potentially significant archaeological feature or material is discovered from the evaluation, the engineer will promptly notify the contractor to determine an appropriate course of action to be taken. Excavation shall not commence until authorized by the engineer.

Sites which have been previously excavated shall be exempt from these requirements.

9. Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.

The department has obtained a U.S. Army Corps of Engineers Section 404 permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contacting Jennifer Fredrickson at 608-785-9945.
107-054 (20080901)

10. Erosion Control and Environmental Protection.

Supplement standard spec 107.20 with the following:

Pursue operations in a timely and diligent manner, continuing all construction operations methodically from the initial topsoil stripping through the subsequent grading and re-topsoiling to minimize the period of potential exposure to erosion

Re-topsoil, seed, fertilizer and mulch graded areas, as designated by the engineer within seven working days after grading is complete.

Perform grading and finishing operations in a continuous and timely manner in environmentally sensitive areas, which are all areas that drain to wetlands, stream crossings, tributaries or other sensitive areas. Place temporary or permanent erosion control measures in environmentally sensitive areas that have been stripped of topsoil and on which significant grading operations have not occurred for more than 14 calendar days. Multiple reinstallations of said temporary measures, as determined by the engineer, will not be considered a reasonable alternative to accomplishing grading and finishing operations in a continuous and timely manner.

Existing wetlands and waterways shall be protected. Do not disturb or store any materials including topsoil beyond the slope intercepts in wetland areas without approval from the engineer.

Wetlands exist along the east side of existing STH 26 from Station 816+00 RT to Station 819+50 RT; Station 740+00 to Station 746+00 RT; Station 748+80 RT to Station 751+00

RT; Station 694+65 RT to Station 696+25 RT; Station 677+50 RT to Station 678+30 RT; Station 664+70 RT to 666+70 RT; and Station 629+75 RT to Station 641+25 RT.

If dewatering is required, filter or settle the dirty water prior to release into a waterway. Dissipate the release to not cause any scour at the outflow area.

Place stockpiled spoil material on an upland site an adequate distance from the stream and any open water created by excavation. Install silt fence between the spoil pile and excavation site and between any disturbed areas and the waterway. Seed and mulch all disturbed areas as soon as possible following construction. Leave the silt fence in place until the seeded area has produced sufficient grass cover to stabilize the area and thereby reduce the danger of site erosion.

11. Environmental Protection, Gypsy Moth.

Rock County is listed as a Gypsy Moth Quarantine area. It is illegal to move or transport any wood product or outdoor household articles that have been exposed to gypsy moth from a quarantined area to a non-quarantined area without inspection or certification, Wis. ATCP statute 21.10.

12. Environmental Protection, Aquatic Exotic Species Control.

Exotic invasive organisms such as VHS, zebra mussels, purple loosestrife, and Eurasian water milfoil are becoming more prolific in Wisconsin and pose adverse effects to waters of the state. Wisconsin State Statutes 30.07, "Transportation of Aquatic Plants and Animals; Placement of Objects in Navigable Waters", details the state law that requires the removal of aquatic plants and zebra mussels each time equipment is put into state waters.

At construction sites that involve navigable water or wetlands, use the follow cleaning procedures to minimize the chance of exotic invasive species infestation. Use these procedures for all equipment that comes in contact with waters of the state and/or infested water or potentially infested water in other states.

Ensure that all equipment that has been in contact with waters of the state, or with infested or potentially infested waters, has been decontaminated for aquatic plant materials and zebra mussels prior to being used in other waters of the state. Before using equipment on this project, thoroughly disinfect all equipment that has come into contact with potentially infested waters. Use the following inspection and removal procedures (guidelines from the Wisconsin Department of Natural Resources http://dnr.wi.gov//fish/documents/disinfection_protocols.pdf) for disinfection:

1. Prior to leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain exotic invasive species;
2. Drain all water from boats, trailers, bilges, live wells, coolers, bait buckets, engine compartments, and any other area where water may be trapped;

3. Inspect boat hulls, propellers, trailers and other surfaces. Scrape off any attached mussels, remove any aquatic plant materials (fragments, stems, leaves, seeds, or roots), and dispose of removed mussels and plant materials in a garbage can prior to leaving the area or invested waters; and
4. Disinfect your boat, equipment and gear by either:
    a. Washing with ~212º F water (steam clean), or
    b. Drying thoroughly for five days after cleaning with soap and water and/or high pressure water, or
    c. Disinfecting with either 200 ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10-minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20- to 30-minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore this disinfect should be used in conjunction with a hot water (>104º F) application.

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.
107-055 (20110615)

13. Environmentally Sensitive Area Protection - Archeological Site.

An archaeological site is located in the SE and NE quadrants of Koshkonong Lake / Pond Road and STH 26 as shown on the plan and profile sheets. Do not use these marked areas for borrow excavation, waste disposal, or for the staging of personnel, equipment and/or supplies. No sub-surfacing excavation or grading is allowed for this project. Orange safety fence shall be placed no more than 8' beyond the proposed slope intercept and silt fence shall be placed approximately 5' beyond the proposed slope intercepts where this site exists as shown on the plans. Any deviation from the plans that involves ground-disturbing activities within the archaeological site boundary must be described in writing and forwarded to WHS (Wisconsin Historical Society) for further review and authorization.

If a potentially significant archaeological feature or material, human remains or associated burial items are discovered during construction, cease ground disturbing activities in the vicinity of the discovery, secure the discovery site, and notify the WisDOT on-site engineer and ESS (Bureau of Technical Services - Environmental Services Section). The contact at ESS is Jim Becker, (608) 261-0137 or Lynn Cloud, (608) 266-0099. Do not resume ground-disturbing activities in the vicinity of the discovery until authorized by the WisDOT on-site engineer or ESS.

14. Notice to Contractor, Existing Drain Tile.

The adjacent property owner indicates that there may be an existing clay field drain tile that crosses STH 26 between Station 660+00 and 667+00. If this clay drain tile is encountered during construction it shall be replaced with a 12-inch concrete culvert pipe paid for by the linear foot at the contract unit price within the grading limits of this contract.

All other existing drain tiles, sewers, septic fields and other subsurface drains shall be preserved and protected as specified in standard spec 205.3.3.

15. Notice to Contractor, Contaminated Soil.

Records indicated that there may be the potential for petroleum-contaminated soils and an underground storage tank (UST) within the grading limits from Station 673+78, 62' RT – 168' RT to Station 644+49, 58' RT – 122' RT as shown on the plan and profile sheets.

The potential contamination is within the construction limits, but it lies in an area of proposed shallow excavation. Control construction operations at these locations to avoid excavation of soil in order to avoid encountering contaminated soils. If contaminated soils are encountered at these sites or elsewhere on the project during excavation, terminate excavation in the area and notify the engineer.

The Hazardous Materials Reports are available by contacting Jenny Fredrickson at (608) 785-9945.

16. Coordination with Businesses and Public.

Arrange and conduct a meeting between the department, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations. Hold the first meeting prior to the start of work under this contract, hold one meeting two weeks prior to switching traffic to Stage 2 and two more meetings as needed and directed by the engineer.

17. Removing Buildings, Item 204.0235.

Conform to the requirements of standard spec 204 and as hereinafter specified.

The department has investigated all buildings to be removed for the presence of asbestos. Any friable asbestos found will be removed by others prior to the start of construction. If any additional friable asbestos is found by the contractor during building removal, cease building removal and contact the engineer to arrange for friable asbestos removal by others.

Contact the SW Region Madison Environmental Coordinator (currently Jennifer Fredrickson, (608) 785-9945) to obtain a copy of the pre-demolition asbestos inspection reports.

18. Removing CTH J East Approach Slab, Item 204.9105.S.01.

A Description

This special provision describes removing the CTH J East approach slab and 25' of adjacent asphaltic pavement. In accordance to the pertinent provisions of standard spec

204 and as hereinafter provided. This item also includes any saw cuts needed to remove the approach slab and asphaltic pavement without disturbing adjacent appurtenant items.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Removing CTH J East Approach Slab as a single lump sum unit of work, acceptably completed.

E Payment
Supplement standard spec 204.5 to include the following:

ITEM NUMBER	DESCRIPTION	UNIT
204.9105.S.01 204-025 (20041005)	Removing CTH J East Approach Slab	LS

19. Base Aggregate Dense, ¾ Inch.

This work shall be in accordance to the pertinent requirements of standard spec 305, except that the material used in all unpaved field entrances and private entrances and the top 3.5 inches of all unpaved portions of shoulders, as shown in the plan, shall consist of crushed stone.

20. Base Aggregate Dense, 1 ¼-Inch

Revise standard spec 305.2.2.1 as follows:

Use 1 ¼-Inch base aggregate that conforms to the following gradation requirements.

	Percentage of Mass Passing
1 1/4 inch	95 - 100
1 inch	---
3/4 inch	70 - 90
3/8 inch	45 - 75
No. 4	30 - 60
No. 10	20 - 40
No. 40	7 - 25
No. 200	2 - 12 [1], [3]

[1] Limited to a maximum of eight percent for base placed between old and new pavement.

[3] 3 - 10 percent passing when base is ≥ 50% crushed gravel

21. QMP Base Aggregate.

A Description

A.1 General

(1) This special provision describes contractor quality control (QC) sampling and testing for base aggregates, documenting those test results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.

(2) Conform to standard spec 301, standard spec 305, and standard spec 310 as modified here in this special provision. Apply this special provision to material placed under all of the Base Aggregate Dense and Base Aggregate Open Graded bid items, except do not apply this special provision to material classified as reclaimed asphaltic pavement placed under the Base Aggregate Dense bid items.

(3) Do not apply this special provision to material placed under the Aggregate Detours, Salvaged Asphaltic Pavement Base, Breaker Run, Select Crushed, Pit Run, Subbase, or Riprap bid items.

(4) Provide and maintain a quality control program, defined as all activities related to and documentation of the following:

1. Production and placement control and inspection.
2. Material sampling and testing.

(5) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm

A.2 Contractor Testing for Small Quantities

(1) The department defines a small quantity, for each individual Base Aggregate bid item, as a plan quantity of 9000 tons or less of material as shown in the schedule of items under that bid item.

(2) The requirements under this special provision apply equally to a small quantity for an individual bid item except as follows:

1. The contractor need not submit a full quality control plan but shall provide an organizational chart to the engineer including names, telephone numbers, and current certifications of all persons involved in the quality control program for material under affected bid items.

2. Divide the aggregate into uniformly sized sublots for testing as follows:

Plan Quantity	Minimum Required Testing
≤ 1500 tons	One test from production, load-out, or placement at the contractor's option[1]
> 1500 tons and ≤ 6000 tons	Two tests of the same type, either from production, load-out, or placement at the contractor's option[1]
> 6000 tons and ≤ 9000 tons	Three placement tests[2] [3]

[1] If using production tests for acceptance, submit test results to the engineer for review prior to incorporating the material into the work. Production test results are valid for a period of 3 years.

[2] For 3-inch material, obtain samples at load-out.

[3] If the actual quantity overruns 9000 tons, create overrun sublots to test at a rate of one additional placement test for each 3000 tons, or fraction of 3000 tons, of overrun.

3. No control charts are required. Submit aggregate load-out and placement test results to the engineer within one business day of obtaining the sample. Assure that all properties are within the limits specified for each test.
4. Department verification testing is optional for quantities of 6000 tons or less.

(3) Material represented by a sublot with any property outside the specification limits is nonconforming. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

B Materials

B.1 Quality Control Plan

(1) Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not place base before the engineer reviews and comments on the plan. Construct the project as that plan provides.

(2) Do not change the quality control plan without the engineer's review. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in each of the contractor's laboratories as changes are adopted. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
3. A list of source and processing locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
4. Test results for wear, sodium sulfate soundness, freeze/thaw soundness, and plasticity index of all aggregates requiring QC testing. Obtain this information from the region materials unit or from the engineer.
5. Descriptions of stockpiling and hauling methods.

6. Locations of the QC laboratory, retained sample storage, and where control charts and other documentation is posted.
7. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.

B.2 Personnel

(1) Have personnel certified under the department's highway technician certification program (HTCP) perform sampling, testing, and documentation as follows:

Required Certification Level:	Sampling or Testing Roles:
Aggregate Technician IPP Aggregate Sampling Technician Aggregate Assistant Certified Technician (ACT-AGG)	Aggregate Sampling[1]
Aggregate Technician IPP Aggregate Assistant Certified Technician (ACT-AGG)	Aggregate Gradation Testing, Aggregate Fractured Particle Testing, Aggregate Liquid Limit and Plasticity Index Testing

[1] Plant personnel under the direct observation of an aggregate technician certified at level one or higher may operate equipment to obtain samples.

(2) A certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.3 Laboratory

(1) Perform QC testing at a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:

Materials Management Section
3502 Kinsman Blvd.
Madison, WI 53704
Telephone: (608) 246-5388
http://www.dot.state.wi.us/business/engrserv/lab-qualification.htm

B.4 Quality Control Documentation

B.4.1 General

(1) Submit base aggregate placement documentation to the engineer within 10 business days after completing base placement. Ensure that the submittal is complete, neatly organized, and includes applicable project records and control charts.

B.4.2 Records

(1) Document all placement observations, inspection records, and control adjustments daily in a permanent field record. Also include all test results in the project records. Provide test results to the engineer within 6 hours after obtaining a sample. For 3-inch

base, extend this 6-hour limit to 24 hours. Post or distribute tabulated results using a method mutually agreeable to the engineer and contractor.

B.4.3 Control Charts

(1) Plot gradation and fracture on the appropriate control chart as soon as test results are available. Format control charts according to CMM 8.30. Include the project number on base placement control charts. Maintain separate control charts for each base aggregate size, source or classification, and type.

(2) Provide control charts to the engineer within 6 hours after obtaining a sample. For 3-inch base, extend this 6-hour limit to 24 hours. Post or distribute charts using a method mutually agreeable to the engineer and contractor. Update control charts daily to include the following:

1. Contractor individual QC tests.
2. Department QV tests.
3. Department IA tests.
4. Four-point running average of the QC tests.

(3) Except as specified under B.8.2.1 for nonconforming QV tests, include only QC tests in the running average. The contractor may plot process control or informational tests on control charts, but do not include these tests, conforming QV tests, or IA tests in the running average.

B.5 Contractor Testing

(1) Test gradation, fracture, liquid limit and plasticity index during placement for each base aggregate size, source or classification, and type.

(2) Test gradation once per 3000 tons of material placed. Determine random sample locations and provide those sample locations to the engineer. Obtain samples after the material has been bladed, mixed, and shaped but before compacting; except collect 3-inch samples from the stockpile at load-out. Do not sample from material used to maintain local traffic or from areas of temporary base that will not have an overlying pavement. On days when placing only material used to maintain local traffic or only temporary base that will not have an overlying pavement, no placement testing is required.

(3) Split each contractor QC sample and identify it according to CMM 8.30. Retain the split for 7 calendar days in a dry, protected location. If requested for department comparison testing, deliver the split to the engineer within one business day.

(4) The engineer may require additional sampling and testing to evaluate suspect material or the technician’s sampling and testing procedures.

(5) Test fracture for each gradation test until the fracture running average is above the lower warning limit. Subsequently, the contractor may reduce the frequency to one

test per 10 gradation tests if the fracture running average remains above the warning limit.

(6) Test the liquid limit and plasticity index for the first gradation test. Subsequently, test the liquid limit and plasticity index a minimum of once per 10 gradation tests.

B.6 Test Methods

B.6.1 Gradation

(1) Test gradation using a washed analysis conforming to the following as modified in CMM 8.60:
Gradation..... AASHTO T 27
Material finer than the No. 200 sieve..... AASHTO T 11

(2) For 3-inch base, if 3 consecutive running average points for the percent passing the No. 200 sieve are 8.5 percent or less, the contractor may use an unwashed analysis. Wash at least one sample out of 10. If a single running average for the percent passing the No. 200 sieve exceeds 8.5 percent, resume washed analyses until 3 consecutive running average points are again 8.5 percent passing or less.

(3) Maintain a separate control chart for each sieve size specified in standard spec 305 or standard spec 310 for each base aggregate size, source or classification, and type. Set control and warning limits based on the standard specification gradation limits as follows:

1. Control limits are at the upper and lower specification limits.
2. There are no upper warning limits for sieves allowing 100 percent passing and no lower control limits for sieves allowing 0 percent passing.
3. Dense graded warning limits, except for the No. 200 sieve, are 2 percent within the upper and lower control limits. Warning limits for the No. 200 sieve are set 0.5 percent within the upper and lower control limits.
4. Open graded warning limits for the 1-inch, 3/8-inch, and No. 4 sieves are 2 percent within the upper and lower control limits. Upper warning limits for the No. 10, No. 40, and No. 200 sieves are 1 percent inside the upper control limit.

B.6.2 Fracture

(1) Test fracture conforming to CMM 8.60. The engineer will waive fractured particle testing on quarried stone.

(2) Maintain a separate fracture control chart for each base aggregate size, source or classification, and type. Set the lower control limit at the contract specification limit, either specified in another special provision or in table 301-2 of standard spec 301.2.4.5. Set the lower warning limit 2 percent above the lower control limit. There are no upper limits.

B.6.3 Liquid Limit and Plasticity

(1) Test the liquid limit and plasticity according to AASHTO T 89 and T 90.

(2) Ensure the material conforms to the limits specified in standard spec table 301-2.

B.7 Corrective Action

B.7.1 General

(1) Consider corrective action when the running average trends toward a warning limit. Take corrective action if an individual test exceeds the contract specification limit. Document all corrective actions both in the project records and on the appropriate control chart.

B.7.2 Placement Corrective Action

(1) Do not blend additional material on the roadbed to correct gradation problems.

(2) Notify the engineer whenever the running average exceeds a warning limit. When 2 consecutive running averages exceed a warning limit, the engineer and contractor will discuss appropriate corrective action. Perform the engineer's recommended corrective action and increase the testing frequency as follows:

1. For gradation, increase the QC testing frequency to at least one randomly sampled test per 1000 tons placed.
2. For fracture, increase the QC testing frequency to at least one test per gradation test.

(3) If corrective action improves the property in question such that the running average after 4 additional tests is within the warning limits, the contractor may return to the testing frequency specified in B.5.3. If corrective action does not improve the property in question such that the running average after 4 additional individual tests is still in the warning band, repeat the steps outlined above starting with engineer notification.

(4) If the running average exceeds a control limit, material starting from the first running average exceeding the control limit and ending at the first subsequent running average inside the control limit is nonconforming and subject to pay reduction.

(5) For individual test results significantly outside the control limits, notify the engineer, stop placing base, and suspend other activities that may affect the area in question. The engineer and contractor will jointly review data, data reduction, and data analysis; evaluate sampling and testing procedures; and perform additional testing as required to determine the extent of potentially unacceptable material. The engineer may direct the contractor to remove and replace that material. Individual test results are significantly outside the control limits if meeting one or more of the following criteria:

1. A gradation control limit for the No. 200 sieve is exceeded by more than 3.0 percent.
2. A gradation control limit for any sieve, except the No. 200, is exceeded by more than 5.0 percent.
3. The fracture control limit is exceeded by more than 10.0 percent.

B.8 Department Testing

B.8.1 General

(1) The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project, and provide test results to the contractor within 2 business days after the department obtains the sample.

B.8.2 Verification Testing

B.8.2.1 General

(1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in B.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

(2) The department will conduct QV tests of each base aggregate size, source or classification, and type during placement conforming to the following:
1. One non-random test on the first day of placement.
2. At least one random test per 30,000 tons, or fraction of 30,000 tons, placed.

(3) The department will sample randomly, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will collect QV samples after the material has been bladed, mixed, and shaped but before compacting; except, for 3-inch aggregates, the department will collect samples from the stockpile at load-out. The department will split each sample, test half for QV, and retain half.

(4) The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.

(5) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to the specification, the department will take no further action. If QV test results are nonconforming, add the QV to the QC test results as if it were an additional QC test.

B.8.3 Independent Assurance

(1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:
1. Split sample testing.
2. Proficiency sample testing.
3. Witnessing sampling and testing.

4. Test equipment calibration checks.
5. Reviewing required worksheets and control charts.
6. Requesting that testing personnel perform additional sampling and testing.

(2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in B.9.

B.9 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate sampling and testing procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.

(2) Production test results, and results from other process control testing, may be considered when resolving a dispute.

(3) If the project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C (Vacant)

D (Vacant)

E Payment

(1) Costs for all sampling, testing, and documentation required under this special provision are incidental to this work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the non-performance of QMP administrative item.

(2) For material represented by a running average exceeding a control limit, the department will reduce pay by 10 percent of the contract price for the affected Base Aggregate bid items listed in subsection A. The department will administer pay reduction under the Nonconforming QMP Base Aggregate Gradation or

Nonconforming QMP Base Aggregate Fracture Administrative items. The department will determine the quantity of nonconforming material as specified in B.7.2.

301-010 (20100709)

22. Rout and Seal, Item 415.6000.S.

A Description

This special provision describes routing, cleaning, drying, and sealing the longitudinal edge of pavement joints in new asphaltic pavement shoulders immediately adjacent to the edge of the concrete mainline pavement. The work shall conform to the plan details and as hereinafter provided.

B Materials

Furnish material that conforms to the requirements of the Specifications for Joint Sealants, Hot-Poured, for Concrete and Asphalt Pavements, ASTM Designation: D 6690, Type II, modified to require that the bond strength test be run at -20 degrees F. (The unmodified ASTM D 6690, Type II allows this test to be run at either 0 degrees F or -20 degrees F.)

Deliver each lot or batch of sealing compound to the jobsite in the manufacturer's original sealed container. Mark each container with the manufacturer's name, batch or lot number, and the safe heating temperature. Present the manufacturer's certification stating that the compound meets the requirements of this specification. Prior to applying the sealant, furnish to the engineer a certificate of compliance and a copy of the manufacturer's recommendations on heating and applying the sealant.

C Construction

C.1 Equipment

Heat the sealing compound to the pouring temperature recommended by the manufacturer in an approved kettle or tank, constructed as a double boiler, with the space between the inner and outer shells filled with oil or other satisfactory heat transfer medium. If and when using the heating kettle on concrete or asphaltic pavement, properly insulate the heating kettle to ensure heat is not radiated to the pavement surface.

Make rout cuts in a single pass. Two-pass cutting will not be allowed. Use a self-propelled mechanical router capable of routing the bituminous pavement to provide a 1.0:1.0 depth to width ratio of all routed cracks. The router blade or blades shall be of such size and configuration to cut the desired joint reservoir in one pass of the rout. No spacers between blades shall be allowed unless the contractor can demonstrate to the engineer that the desired reservoir and rout cut can be obtained with them. Either wet or dry routing will be permitted provided the above conditions are met. Use a pressure distributor for applying sealing material through a hand-operated wand or nozzle according to sealant manufacturer's instructions.

C.2 Methods

Conduct the operation so that the routing, cleaning, and sealing are continuous operations. Traffic shall not be allowed to knead together or damage the routed joints. Rerout, if necessary, routed joints not sealed before traffic is allowed on the pavement when routing and sealing operations resume at no additional cost to the department. Do not perform rout cutting, cleaning, and sealing, within 48 hours of the placement of the shoulder's surface course.

Rout the longitudinal joint to a minimum width of ¾-inches and a minimum depth of ¾-inches. Use a power vacuum or equivalent to immediately remove any routing slurry, dirt, or deleterious matter adhering to the joint walls or remaining in the joint cavity, or both. Prior to sealing, dry the cleaned joints either by air-drying or by using a high capacity torch. Immediately prior to sealing, blow out the dried crack with a blast of compressed air, 80-psi minimum. Continue cleaning until the joint is dry, and until all dirt, dust, or deleterious matter is removed from the joint and adjacent pavement to the satisfaction of the engineer. If the air compressor produces dirt or other residue in the joint cavity, the contractor shall be required to clean the joint again.

If cleaning operations could cause damage to, or interfere with, traffic in adjacent lanes, or both, provide protective screening that is subject to the approval of the engineer to the cleaning operation.

Following cleaning, dry the routed joints and warm them with a hot air lance. Take care not to burn the pavement surface. Under no circumstances shall more than two minutes elapse between the time the hot air lance is used and the sealant is placed.

Provide positive temperature control and mechanical agitation. Do not heat the sealant to more than 20 degrees F below the safe heating temperature. The safe heating temperature can be obtained from the manufacturer's shipping container. Provide a direct connecting pressure type extruding device with nozzles shaped for insertion into the joint. Immediately remove sealant spilled on the surface of the pavement.

Seal the joints when the sealant material is at the pouring temperature recommended by the manufacturer. Fill the joint such that after cooling, the sealant is flush with the adjacent pavement surface. Do not overfill the joint; the engineer may allow a very slight overband. Sand shall not be spread on the sealed joints to allow for opening to traffic. Before opening to traffic, the sealant shall be tack free.

D Measurement

The department will measure Rout and Seal in length by the linear foot, completed according to the contract and accepted,

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
415.6000.S	Rout and Seal	LF

Payment is full compensation for rout cutting; cleaning the joint; furnishing and installing all materials, including sealant.
415-100 (20080902)

23. QMP Ride; Incentive IRI Ride, Item 440.4410.S.

A Description

(1) This special provision describes profiling pavements with a non-contact profiler, locating areas of localized roughness, and determining the International Roughness Index (IRI) for each wheel path segment.

(2) Profile the final riding surface of all mainline pavements, bridges, approaches, and railroad crossings. Roundabouts, and pavements within 150 feet of the points of curvature of roundabout intersections, are excluded from the testing requirements of this provision.

(3) Pavements that are excluded from localized roughness according to C.5.2(1), bridges, and roundabout intersections are subject to engineer-directed straightedging according to the standard specifications. All other surfaces being tested under this provision are exempt from straightedging requirements.

B (Vacant)

C Construction

C.1 Quality Control Plan

(1) Submit a written quality control plan to the engineer at or before the pre-construction conference. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of all quality control personnel.
2. The process by which quality control information and corrective action efforts will be disseminated to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
3. The methods and timing used for monitoring and/or testing ride quality throughout the paving process.
4. The evaluation process that will be used to make improvements to the construction operations if poor ride quality is found during the process control testing.
5. The methods that will be used to ensure a smooth pavement transition when matching into existing surfaces such as bridges, bridge approaches, or railroad crossings.
6. The segment locations of each profile run used for acceptance testing.
7. The approximate timing of acceptance testing in relation to the paving operations.

C.2 Personnel

(1) Have a profiler operator, certified under the department's highway technician certification program (HTCP), operate the equipment, collect the required data, and document the results using the methods taught in the HTCP profiling course.

C.3 Equipment

(1) Furnish a profile-measuring device capable of measuring IRI from the list of department-approved devices published on the department's web site:

http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm

(2) Unless the engineer and contractor mutually agree otherwise, arrange to have a calibrated profiler available when paving the final riding surface. Calibrate the profiler according to the manufacturer's recommendations. Provide the engineer with a copy of the most recent calibration results, signed by the certified profiler operator.

(3) Perform daily calibration verification of the profiler using test methods according to the manufacturer's recommendations. Notify the engineer prior to performing the calibration verification. If the engineer requests, arrange to have the engineer observe the calibration verification and operation. Maintain records of the calibration verification activities, and provide the records to the engineer upon request.

C.4 Testing

C.4.1 Run and Reduction Parameters

(1) Enter the equipment-specific department-approved filter settings and parameters listed on the department's ride web site.

C.4.2 Contractor Testing

(1) Operate profilers within the manufacturer's recommended speed tolerances. Perform all profile runs in the direction of travel. Measure the longitudinal profile of each wheel track of each lane. The wheel tracks are 6.0 feet apart and centered in the traveled way of the lane.

(2) Coordinate with the engineer to schedule profile runs for acceptance. The department may require testing to accommodate staged construction or if corrective action may be required.

(3) Measure the profiles of each standard or partial segment. Define primary segments starting at a project terminus and running contiguously along the mainline to the other project terminus. Field-locate the beginning and ending points for each profile run. When applicable, align segment limits with the sublot limits used for testing under the QMP Concrete Pavement specification. Define segments one wheel path wide and distinguished by length as follows:

1. Standard segments are 500 feet long.
2. Partial segments are less than 500 feet long.

(4) Treat partial segments as independent segments.

(5) The department will categorize each standard or partial segment as follows:

Segments with a Posted Speed Limit of 55 MPH or Greater	
Category	**Description**
HMA I	Asphalt pavement with multiple opportunities to achieve a smooth ride. The following operations performed under this contract are considered as opportunities: a layer of HMA, a leveling or wedging layer of HMA, and diamond grinding or milling of the underlying pavement surface.
HMA II	Asphalt pavement with a single opportunity to achieve a smooth ride.
HMA III	Asphalt pavement segments containing any portion of a bridge, bridge approach, railroad crossing, or intersection. An intersection is defined as the area within the points of curvature of the intersection radii.
PCC II	Concrete pavement including all gaps.
PCC III	Concrete pavement segments containing any portion of a bridge, bridge approach, railroad crossing, or intersection. An intersection is defined as the area within the points of curvature of the intersection radii.

Segments with Any Portion Having a Posted Speed Limit Less Than 55 MPH	
Category	**Description**
HMA IV	Asphalt pavement including intersections, bridges, approaches, and railroad crossings.
PCC IV	Concrete pavement including gaps, intersections, bridges, approaches, and railroad crossings.

C.4.3 Verification Testing

(1) The department may conduct verification testing (QV) to validate the quality of the product. A certified HTCP profiler technician will perform the QV testing. The department will provide the contractor with a listing of the names and telephone numbers of all verification personnel for the project.

(2) The department will notify the contractor before testing so the contractor can observe the QV testing. Verification testing will be performed independent of the contractor's QC work using separate equipment from the contractor's QC tests. The department will provide test results to the contractor within 1 business day after the department completes the testing.

(3) The engineer and contractor will jointly investigate any testing discrepancies. The investigation may include additional testing as well as review and observation of both the department's and contractor's testing procedures and equipment. Both parties will document all investigative work.

(4) If the contractor does not respond to an engineer request to resolve a testing discrepancy, the engineer may suspend production until action is taken. Resolve disputes as specified in C.6.

C.4.4 Documenting Profile Runs

(1) Compute the IRI for each segment and analyze areas of localized roughness using the ProVAL software. Within 5 business days after completing a final acceptance profile run, submit a copy of the ProVAL smoothness assurance report showing the IRI for each segment and the areas of localized roughness exceeding an IRI of 175 in/mile. The ProVAL software and department-specified inputs are available on the department's web site:

http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm

(2) As part of the profiler software outputs and ProVAL reports, document the areas of localized roughness and the locations of individual features including construction joints, structure limits, design features, utility fixtures, and other features that might affect the department's evaluation of ride quality. Field-locate the areas of localized roughness prior to the engineer's assessment for corrective actions.

(3) Within 5 business days after completing profiling of the pavement covered under this special provision, unless the engineer and contractor mutually agree to a different timeline, submit the electronic ProVAL project file containing the .ERD files for each profiler acceptance run. Submit profile data using the department's Materials Reporting System (MRS) software available on the department's web site:

http://www.atwoodsystems.com/mrs

C.5 Corrective Actions

C.5.1 General

(1) Correct the ride as the engineer directs. The department will independently assess whether a repair will help or hurt the long-term pavement performance and/or public perception of the ride before deciding on corrective action.

C.5.2 Corrective Actions for Localized Roughness

(1) Apply localized roughness requirements to all pavements, including HMA III, PCC III, HMA IV, and PCC IV; except localized roughness requirements will not be applied to pavements within 25 feet of the following surfaces if they are not constructed under this contract: bridges, bridge approaches, or railroad crossings. The department may direct the contractor to make corrections to the pavement within the 25-foot exclusionary zones and will compensate the contractor for the extra work.

(2) The engineer will review each individual wheel track for areas of localized roughness. The engineer will assess areas of localized roughness that exceed an IRI of 175 in/mile and do one of the following for each location:

1. Direct the contractor to correct the area to minimize the effect on the ride.
2. Leave the area of localized roughness in place with no pay reduction.
3. Except for HMA IV and PCC IV segments, assess a pay reduction as follows for each location in each wheel path:

Localized Roughness IRI (in/mile)	Pay Reduction[1] (dollars)
> 175	(Length in Feet) x (IRI – 175)

[1] A maximum $250 pay reduction may be assessed for locations of localized roughness that are less than or equal to 25 feet long. Locations longer than 25 feet may be assessed a maximum pay reduction of $10 per foot.

(3) The engineer will not direct corrective action or assess a pay reduction for an area of localized roughness without independent identification of that area as determined by physically riding the pavement. For corrections, use only techniques the engineer approves.

(4) Re-profile corrected areas to verify that the IRI is less than 140 in/mile after correction. Submit a revised ProVAL smoothness assurance report for the corrected areas to validate the results.

C.5.3 Corrective Actions for Excessive IRI

(1) If an individual segment IRI exceeds 140 in/mile for HMA I, HMA II, and PCC II pavements after correction for localized roughness, the engineer may require the contractor to correct that segment. Correct the segment final surface as follows:

HMA I:	Correct to an IRI of 60 in/mile using whichever of the following methods the engineer directs: Mill and replace the full lane width of the riding surface excluding the paved shoulder. Correct the full lane width using techniques approved by the engineer.
HMA II:	Correct to an IRI of 85 in/mile using whichever of the following methods the engineer directs: Mill and replace the full lane width of the riding surface excluding the paved shoulder. Correct the full lane width using techniques approved by the engineer.
PCC II:	Correct to an IRI of 85 in/mile using whichever of the following methods the engineer directs: Continuous diamond grinding of the full lane width of the riding surface including adjustment of the paved shoulders Correct the full lane width using techniques approved by the engineer.

(2) Re-profile corrected segments to verify that the final IRI meets the above correction limits and there are no areas of localized roughness. Submit a revised ProVAL smoothness assurance report for the corrected areas to validate the results. Segments failing these criteria after correction are subject to the engineer's right to adjust pay for non-conforming work under standard spec 105.3.

C.6 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate testing procedures, and perform additional testing.

(2) If the project personnel cannot resolve a dispute and the dispute affects payment or could result in incorporating nonconforming pavement, the department will use third party testing to resolve the dispute. The department's Quality Assurance Unit, or a mutually agreed on independent testing company, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent tester. The department may use third party tests to evaluate the quality of questionable pavement and determine the appropriate payment.

D Measurement

(1) The department will measure Incentive IRI Ride by the dollar, adjusted as specified in E.2.

E Payment

E.1 Payment for Profiling

(1) Costs for furnishing and operating the profiler, documenting profile results, and correcting the final pavement surface are incidental to the contract.

E.2 Pay Adjustment

(1) The department will pay incentive for ride under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
440.4410.S	Incentive IRI Ride	DOL

(2) Incentive payment is not limited, either up or down, to the amount the schedule of items shows.

(3) The department will administer disincentives for ride under the Disincentive IRI Ride administrative item.

(4) The department will not assess disincentive on HMA III or PCC III segments. Incentive pay for HMA III and PCC III segments will be according to the requirements for the category of the adjoining segments.

(5) The department will adjust pay for each segment based on the initial IRI for that segment before any corrective action is taken. The department will base disincentives on the IRI after correction for pavement meeting the following conditions:

All Pavement:	The corrective work is performed in a contiguous, full lane width section 500 feet long, or a length as agreed with the engineer.
HMA Pavements:	The corrective work is a mill and inlay or full depth replacement and the inlay or replacement layer thickness conforms to standard spec 460.3.2.
Concrete Pavements:	The corrective work is a full depth replacement and conforms to standard spec 415.

(6) The department will adjust pay for 500-foot long standard segments nominally one wheel path wide using equation "QMP 1.03" as follows:

HMA I	
Initial IRI (inches/mile)	**Pay Adjustment[1] (dollars per standard segment)**
< 30	250
≥ 30 to <35	1750 – (50 x IRI)
≥ 35 to < 60	0
≥ 60 to < 75	1000 – (50/3 x IRI)
≥ 75	-250

HMA II and PCC II	
Initial IRI (inches/mile)	**Pay Adjustment[1] [2] (dollars per standard segment)**
< 50	250
≥ 50 to < 55	2750 – (50 x IRI)
≥ 55 to < 85	0
≥ 85 to < 100	(4250/3) – (50/3 x IRI)
≥ 100	-250

HMA IV and PCC IV	
Initial IRI (inches/mile)	**Pay Adjustment[1] [2] (dollars per standard segment)**
< 50	250
≥ 50 to < 75	750 – (10 x IRI)
≥ 75	0

[1] If the engineer directs placing upper layer asphaltic mixtures between October 15 and May 1 for department convenience as specified in standard spec 450.3.2.1(5), the department will not adjust pay for ride on pavement the department orders the contractor to place when the temperature, as defined in standard spec 450.3.2.1(2), is less than 36 F.

[2] If the engineer directs placing concrete pavement for department convenience, the department will not adjust pay for ride on pavement the department orders the contractor to place when the air temperature falls below 35 F.

(7) The department will prorate the pay adjustment for partial segments based on their length.

440-010 (20100709)

24. QMP HMA Pavement Nuclear Density.

A Description

Replace standard spec 460.3.3.2 (1) and standard spec 460.3.3.2 (4) with the following:

(1) This special provision describes density testing of in-place HMA pavement with the use of nuclear density gauges. Conform to standard spec 460 as modified in this special provision.

(2) Provide and maintain a quality control program defined as all activities and documentation of the following:

1. Selection of test sites.
2. Testing.
3. Necessary adjustments in the process.
4. Process control inspection.

(3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required procedures. Obtain the CMM from the department's web site at:

http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm

(4) The department's Materials Reporting System (MRS) software allows contractors to submit data to the department electronically, estimate pay adjustments, and print selected reports. Qualified personnel may obtain MRS software from the department's web site at:

http://www.atwoodsystems.com/mrs

B Materials

B.1 Personnel

(1) Perform HMA pavement density (QC, QV) testing using a HTCP certified nuclear technician I, or a nuclear assistant certified technician (ACT-NUC) working under a certified technician.

(2) If an ACT is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.2 Testing

(1) Conform to ASTM D2950 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter position. Perform each test for 4 minutes of nuclear gauge count time.

B.3 Equipment

B.3.1 General

(1) Furnish nuclear gauges from the department's approved product list at http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm.

(2) Have the gauge calibrated by the manufacturer or an approved calibration service within 12 months of its use on the project. Retain a copy of the manufacturer's calibration certificate with the gauge.

(3) Prior to each construction season, and following any calibration of the gauge, the contractor must perform calibration verification for each gauge using the reference blocks located in the department's central office materials laboratory. To obtain information or schedule a time to perform calibration verification, contact the department's Radiation Safety Officer at:

Materials Management Section
3502 Kinsman Blvd.
Madison, Wisconsin 53704
Telephone: (608) 243-5998

B.3.2 Correlation of Nuclear Gauges

B.3.2.1 Correlation of QC and QV Nuclear Gauges

(1) Select a representative section of the compacted pavement prior to or on the first day of paving for the correlation process. The section does not have to be the same mix design.

(2) Correlate the 2 or more gauges used for density measurement (QC, QV). The QC and QV gauge operators will perform the correlation on 5 test sites jointly located. Record each density measurement of each test site for the QC, QV and back up gauges.

(3) Calculate the average of the difference in density of the 5 test sites between the QC and QV gauges. Locate an additional 5 test sites if the average difference exceeds 1.0 lb/ft^3. Measure and record the density on the 5 additional test sites for each gauge.

(4) Calculate the average of the difference in density of the 10 test sites between the QC and QV gauges. Replace one or both gauges if the average difference of the 10 tests exceeds 1.0 lb/ft^3 and repeat correlation process from B.3.2.1 (2).

(5) Furnish one of the QC gauges passing the allowable correlation tolerances to perform density testing on the project.

B.3.2.2 Correlation Monitoring

(1) After performing the gauge correlation specified in B.3.2.1, establish a project reference site approved by the department. Clearly mark a flat surface of concrete or asphalt or other material that will not be disturbed during the duration of the project.

Perform correlation monitoring of the QC, QV, and all back-up gauges at the project reference site.

(2) Conduct an initial 10 density tests with each gauge on the project reference site and calculate the average value for each gauge to establish the gauge's reference value. Use the gauge's reference value as a control to monitor the calibration of the gauge for the duration of the project.

(3) Check each gauge on the project reference site a minimum of one test per day if paving on the project. Calculate the difference between the gauge's daily test result and its reference value. Investigate if a daily test result is not within 1.5 lb/ft^3 of its reference value. Conduct 5 additional tests at the reference site once the cause of deviation is corrected. Calculate and record the average of the 5 additional tests. Remove the gauge from the project if the 5-test average is not within 1.5 lb/ft^3 of its reference value established in B.3.2.2(2).

(4) Maintain the reference site test data for each gauge at an agreed location.

B.4 Quality Control Testing and Documentation

B.4.1 Lot and Sublot Requirements

B.4.1.1 Mainline Traffic Lanes, Shoulders, and Appurtenances

(1) A lot consists of the tonnage placed each day for each layer and target density specified in standard spec 460.3.3.1. A lot may include partial sublots.

(2) Divide the roadway into sublots. A sublot is 1500 lane feet for each layer and target density.

(3) A sublot may include HMA placed on more than one day of paving. Test sublots at the pre-determined random locations regardless of when the HMA is placed. No additional testing is required for partial sublots at the beginning or end of a day's paving.

(4) If a resulting partial quantity at the end of the project is less than 750 lane feet, include that partial quantity with the last full sublot of the lane. If a resulting partial quantity at the end of the project is 750 lane feet or more, create a separate sublot for that partial quantity.

(5) Randomly select test locations for each sublot as specified in CMM 8.15 prior to paving and provide a copy to the engineer. Locate and mark QC density test sites when performing the tests. Perform density tests prior to opening the roadway to traffic.

(6) Use Table 1 to determine the number of tests required at each station, depending on the width of the lane being tested. When more than one test is required at a station, offset the tests 10 feet longitudinally from one another to form a diagonal testing row across the lane.

Lane Width	No. of Tests	Transverse Location
5 ft or less	1	Random
Greater than 5 ft to 9 ft	2	Random within 2 equal widths
Greater than 9 ft	3	Random within 3 equal widths

Table 1

B.4.1.2 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts

(1) A lot represents a combination of the total daily tonnage for each layer and target density.

(2) Each side road, crossover, turn lane, ramp, and roundabout must contain at least one sublot for each layer.

(3) If a side road, crossover, turn lane, or ramp is 1500 feet or longer, determine sublots and random test locations as specified in B.4.1.1.

(4) If a side road, crossover, turn lane, or ramp is less than 1500 feet long, determine sublots using a maximum of 750 tons per sublot and perform the number of random tests as specified in Table 2.

Side Roads, Turn Lanes, Crossovers, Ramps, Roundabouts: Sublot/Layer tonnage	Minimum Number of Tests Required
25 to 100 tons	1
101 to 250 tons	3
251 to 500 tons	5
501 to 750 tons	7

Table 2

B.4.2 Pavement Density Determination

B.4.2.1 Mainline Traffic Lanes and Appurtenances

(1) Calculate the average sublot densities using the individual test results in each sublot.

(2) If all sublot averages are no more than one percent below the target density, calculate the daily lot density by averaging the results of each random QC test taken on that day's material.

(3) If any sublot average is more than one percent below the target density, do not include the individual test results from that sublot when computing the lot average density and remove that sublot's tonnage from the daily quantity for incentive. The tonnage from any such sublot is subject to disincentive pay according to standard spec 460.5.2.2.

B.4.2.2 Mainline Shoulders

B.4.2.2.1 Width Greater Than 5 Feet

(1) Determine the pavement density as specified in B.4.2.1.

B.4.2.2.2 Width of 5 Feet or Less

(1) If all sublot test results are no more than 3.0 percent below the minimum target density, calculate the daily lot density by averaging all individual test results for the day.

(2) If a sublot test result is more than 3.0 percent below the target density, the engineer may require the unacceptable material to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine the limits of the unacceptable material according to B.4.3.

B.4.2.3 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts

(1) Determine the pavement density as specified in B.4.2.1.

B.4.2.4 Documentation

(1) Document QC density test data as specified in CMM 8.15. Provide the engineer with the data for each lot within 24 hours of completing the QC testing for the lot.

B.4.3 Corrective Action

(1) Notify the engineer immediately when an individual test is more than 3.0 percent below the specified minimum in standard spec 460.3.3.1. Investigate and determine the cause of the unacceptable test result.

(2) The engineer may require unacceptable material specified in B.4.3(1) to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine limits of the unacceptable area by measuring density of the layer at 50-foot increments both ahead and behind the point of unacceptable density and at the same offset as the original test site. Continue testing at 50-foot increments until a point of acceptable density is found as specified in standard spec 460.5.2.2(1). Removal and replacement of material may be required if extended testing is in a previously accepted sublot. Testing in a previously accepted sublot will not be used to recalculate a new lot density.

(3) Compute unacceptable pavement area using the product of the longitudinal limits of the unacceptable density and the full sublot width within the traffic lanes or shoulders.

(4) Retesting and acceptance of replaced pavement will be according to standard spec 105.3.

(5) Tests indicating density more than 3.0 percent below the specified minimum, and further tests taken to determine the limits of unacceptable area, are excluded from the computations of the sublot and lot densities.

(6) If 2 consecutive sublot averages within the same paving pass and same target density are more than one percent below the specified target density, notify the engineer and take necessary corrective action. Document the locations of such sublots and the corrective action that was taken.

B.5 Department Testing

B.5.1 Verification Testing

(1) The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will test randomly at locations independent of the contractor's QC work. The department will perform verification testing at a minimum frequency of 10 percent of the sublots and a minimum of one sublot per mix design. The sublots selected will be within the active work zone. The contractor will supply the necessary traffic control for the department's testing activities.

(2) The QV tester will test each selected sublot using the same testing requirements and frequencies as the QC tester.

(3) If the verification sublot average is not more than one percent below the specified minimum target density, use the QC tests for acceptance.

(4) If the verification sublot average is more than one percent below the specified target density, compare the QC and QV sublot averages. If the QV sublot average is within 1.0 lb/ft^3 of the QC sublot average, use the QC tests for acceptance.

(5) If the first QV/QC sublot average comparison shows a difference of more than 1.0 lb/ft^3 each tester will perform an additional set of tests within that sublot. Combine the additional tests with the original set of tests to compute a new sublot average for each tester. If the new QV and QC sublot averages compare to within 1.0 lb/ft^3, use the original QC tests for acceptance.

(6) If the QV and QC sublot averages differ by more than 1.0 lb/ft^3 after a second set of tests, resolve the difference with dispute resolution specified in B.6. The engineer will notify the contractor immediately when density deficiencies or testing precision exceeding the allowable differences are observed.

B.5.2 Independent Assurance Testing

(1) Independent assurance is unbiased testing the department performs to evaluate the department's verification and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform the independent assurance review according to the department's independent assurance program.

B.6 Dispute Resolution

(1) The testers may perform investigation in the work zone by analyzing the testing, calculation, and documentation procedures. The testers may perform gauge correlation according to B.3.2.1.

(2) The testers may use correlation monitoring according to B.3.2.2 to determine if one of the gauges is out of tolerance. If a gauge is found to be out of tolerance with its reference value, remove the gauge from the project and use the other gauge's test results for acceptance.

(3) If the testing discrepancy cannot be identified, the contractor may elect to accept the QV sublot density test results or retesting of the sublot in dispute within 48 hours of paving. Traffic control costs will be split between the department and the contractor.

(4) If investigation finds that both gauges are in error, the contractor and engineer will reach a decision on resolution through mutual agreement.

B.7 Acceptance

(1) The department will not accept QMP HMA Pavement Nuclear Density if a non-correlated gauge is used for contractor QC tests.

C (Vacant)

D (Vacant)

E Payment

E.1 QMP Testing

(1) Costs for all sampling, testing, and documentation required under this special provision are incidental to the work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the Non-performance of QMP administrative item.

E.2 Disincentive for HMA Pavement Density

(1) The department will administer density disincentives according to standard spec 460.5.2.2.

E.3 Incentive for HMA Pavement Density

(1) Delete standard spec 460.5.2.3.

(2) If the lot density is greater than the minimum specified in standard spec table 460-3 and all individual air voids test results for that mixture are within +1.0 percent or -0.5 percent of the design target in standard spec table 460-2, the department will adjust pay for that lot as follows:

Percent Lot Density Above Minimum	Pay Adjustment Per Ton
From -0.4 to 1.0 inclusive	$0
From 1.1 to 1.8 inclusive	$0.40
More than 1.8	$0.80

(3) The department will adjust pay under the Incentive Density HMA Pavement bid item. Adjustment under this item is not limited, either up or down, to the bid amount shown on the schedule of items.

(4) If a traffic lane meets the requirements for disincentive, the department will not pay incentive on the integrally paved shoulder.

(5) Submit density results to the department electronically using the MRS software. The department will validate all contractor data before determining pay adjustments.

460-020 (20100709)

25. Sealing Cracks/Joints with Hot-Applied Sealant, Item 492.2010.S.

A Description

This special provision describes sealing primary crack and joints along their entire length of HMA and Portland cement concrete pavements, at locations shown in the contract documents or as directed by the engineer.

Primary cracks are defined as those cracks greater than or equal to 0.25-inches (6-mm) wide.

B Materials

B.1 Sealant Material

Use a sealant material meeting the requirements of ASTM D6690 Type II: Joint and Crack Sealants, Hot Applied, for Asphalt and Concrete Pavements. Deliver the sealant in the manufacturer's original sealed container legibly marked with the following information:

- Manufacturer's name.
- Trade name of sealant.
- Manufacturer's batch or lot number.
- ASTM D6690, Type II.
- Minimum application temperature.
- Maximum (or safe) heating temperature.

Prior to commencing work, provide the engineer with a certificate of compliance along with a copy of the manufacturer's recommendations pertaining to heating and application of the sealant.

B.2 Equipment

Equipment used in the performance of this work is subject to the engineer's approval.

- **Air Compressor** shall be portable and have a minimum rated capacity of 100 ft^3 of air per minute at 90-psi pressure at the nozzle, and have sufficient hose to maintain a continuing operation without interruption. The unit shall also be equipped with traps that will maintain the compressed air free of oil and water.

- **High Pressure Air Lance or Hot Air Lance** shall be designed specifically for use in cleaning highway pavement and to remove debris, dirt, and dust from the cracks.
- **Hand tools** shall consist of brooms, shovels, metal bars with chisel shaped ends, and any other tools that may be satisfactorily used to accomplish this work.
- **Squeegees** shall be of a flexible rubber type, in the shape of a "vee" (V), and capable of contacting materials up to 450º F without damage to it or materials.
- **Pouring Pots** shall be equipped with mobile carriage, and have a flow control valve that allows all cracks to be filled to refusal so as to eliminate all voids or entrapped air and not leave unnecessary surplus crack sealer on pavement surfaces.
- **Melting Kettle** shall be constructed as a double lined boiler with space between the inner and outer shells filled with oil or other material for heat transfer. The material for transferring heat shall have a flash point of not less than 600º F. Positive temperature control and mechanical agitation will be provided. Direct heating shall not be used. When using, maintain the temperature of the sealing compound within the range specified by the manufacturer. The kettle shall be equipped with thermostatic controls calibrated between 200º F and 550º F.

C Construction

C.1 General

Prior to commencing work, complete all pavement repairs that are included in the contract and are adjacent to pavement cracks.

Furnish all equipment that is necessary for cleaning and sealing the pavement cracks. Use equipment meeting the description and performance requirements described herein and approved by the engineer.

Replace pavement markings that become covered or obliterated with the sealant, or both, at no additional cost to the department. Place the centerline marking, including no-passing zones on the same day that existing marking are obliterated, if the road is open to all traffic and if the surface is capable of retaining markings. Re-mark lane lines and edge lines within a timely manner.

C.2 Crack Preparation

Prepare cracks for sealing on the same day that they are to be sealed.

Use a high-pressure air lance or hot air lance to thoroughly clean cracks to a minimum depth of ½-inch (13-mm) of dust, dirt, foreign material, sand, and any other extraneous materials immediately prior to sealing. Do not burn, scorch, or ignite the adjoining pavement when using a hot air lance.

Install suitable traps or devices on the compressed air equipment to prevent moisture and oil from contaminating the crack surfaces. Maintain these devices and ensure that they are functioning properly.

Protect the public from potentially objectionable and/or hazardous airborne debris.

C.3 Sealant Melting
Heat and melt the sealant in a melter specified in B.2 Equipment.

Do not apply direct heat to the sealant. If and when using the heating kettle on concrete or asphaltic pavement, properly insulate the heating kettle to ensure that heat is not radiated to the pavement surface.

Do not use sealant material heated beyond the safe heating temperature.

If the manufacturer's recommendations allow the sealant to be reheated or heated in excess of six hours, recharge the melter with fresh material amounting to at least 20 percent of the volume of the material remaining in the melter.

C.4 Sealing
Perform sealing when ambient air temperature is at or above 40º F (5º C).

Seal the crack by placing the applicator wand in or directly over the crack opening and carefully discharge the sealant. Strike-off the sealant flush with the pavement surface using a squeegee or using a sealing shoe pressed firmly against the pavement. Only a narrow thin film of material measuring from 1.0 inches to 3.0 inches (25 mm to 75 mm) wide is allowed on the pavement surface after sealing the crack.

A low pressure, light spray of water may be used to accelerate cooling of the sealant. Blotting the sealant with fine aggregate is not allowed. Remove and dispose of sealant in excess of the specified thin "film" dimensions or that has not bonded to both sides of the crack.

Do not allow traffic on the sealed cracks until the seal has cured so as not to track. Clean sealed cracks damaged from traffic with high pressure air and reseal them to meet the specified thin film amount at no additional cost to the department.

The finished work shall produce a watertight crack sealed flush with the pavement surface.

D Measurement
The department will measure Sealing Cracks/Joints with Hot-Applied Sealant by the number of gallons of sealant used to properly seal cracks.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
492.2010.S	Sealing Cracks/Joints with Hot-Applied Sealant	Gal

Payment is full compensation for furnishing and placing the sealant; preparing the pavement surface; and replacing pavement markings.
492-005 (20090901)

26. Expansion Device, B-28-131.

A Description
This special provision describes furnishing and installing an expansion device in accordance to standard spec 502, as shown on the plans, and as hereinafter provided.

B Materials
The minimum thickness of the polychloroprene strip seal shall be ¼-inch for non-reinforced elastomeric glands and 1/8-inch for reinforced glands. Furnish the strip seal gland in lengths suitable for a continuous one-piece installation at each individual expansion joint location. Provide preformed polychloroprene strip seals that conform to the requirements ASTM D3542, and have the following physical properties:

Property Requirements	Value	Test Method
Tensile Strength, min.	2000 psi	ASTM D412
Elongation @ Break, min	250%	ASTM D412
Hardness, Type A, Durometer	60 ± 5 pts.	ASTM D2240
Compression Set, 70 hours @212˚F, max.	35%	D395 Method B Modified
Ozone Resistance, after 70 hrs. at 100˚F under 20% Strain with 100 pphm ozone	No Cracks	ASTM D1149 Method A
Mass Change in Oil 3 after 70 hr. 212˚F Mass Change, max.	45%	ASTM D471

Install the elastomeric strip seal gland with tools recommended by the manufacturer, and with a lubricant adhesive conforming to the requirements of ASTM D4070.

The manufacturer and model number shall be one of the following approved strip seal expansion device products:

	Model Number Strip Seal Gland Size*		
Manufacturer	**4-Inch**	**5-Inch**	**6-Inch**
D.S. Brown	SSA2-A2R-400	SSA2-A2R-XTRA	SSA2-A2R-XTRA
R.J. Watson	RJA-RJ400	RJA-RJ500	RJA-RJ600
Watson Bowman Acme	A-SE400	A-SE500	A-SE800
Commercial Fabricators	A-AS400	-----	-----

*Expansion device strip seal gland size requirement of 4”, 5”, and 6” shall be as shown on the plans.

Furnish manufacturer’s certification for production of polychloroprene represented showing test results for the cured material supplied, and certifying that it meets all specified requirements.

The steel extrusion or retainer shall conform to ASTM designation A 709 grade 36 steel. After fabrication, steel shall be galvanized conforming to the requirements ASTM A123.

Manufacturer's certifications for adhesive and steel shall attest that the materials meet the specification requirements.
502-020 (20110615)

27. Polymer Overlay, Item 509.5100.S.

A Description

This special provision describes furnishing and applying two layers of a two-component polymer overlay system to the bridge decks shown on the plans. The total thickness of the overlay system shall be 3/8".

B Materials

B.1 General

Furnish materials specifically designed for use over concrete bridge decks. Furnish polymer liquid binders from the department's approved product list.

B.2 Polymer Resin

The polymer resin base and hardener shall be composed of two-component, 100% solids, 100% reactive, thermosetting compound with the following properties:

Property	Requirements	Test Method
Gel Time [A]	15 - 45 minutes @ 73° to 75° F	ASTM C881
Viscosity [A]	7 - 70 poises	ASTM D2393, Brookfield RVT, Spindle No. 3, 20 rpm
Shore D Hardness [B]	60-75	ASTM D2240
Absorption [B]	1% maximum at 24 hr	ASTM D570
Tensile Elongation [B]	30% - 70% @ 7 days	ASTM D638
Tensile Strength[B]	>2000 psi @ 7 days	ASTM D638
Flexural Strength [B]	>4500 psi @ 7 days	ASTM D790
Chloride Permeability [B]	<100 coulombs @ 28 days	AASHTO T277

[A] Uncured, mixed polymer binder
[B] Cured, mixed polymer binder

B.3 Aggregates

Furnish natural or synthetic aggregates that have a proven record of performance in applications of this type. Furnish aggregates that are non-polishing, clean, free of surface moisture, fractured or angular in shape; free from silt, clay, asphalt, or other organic materials; and meet the following properties and gradation requirements:

Aggregate Properties:

Property	Requirement	Test Method
Moisture Content	≤0.2%	ASTM C566
Hardness	≥6.5	Mohs Scale
Fractured Faces	100% with at least 1 fractured face and 80% with at least 2 fractured faces of material retained on No.16	ASTM 5821

Gradation:

Sieve Size	% Passing by Weight
No. 4	100
No. 8	30 – 75
No. 16	0 – 5
No. 30	0 – 1

B.4 Required Properties of Overlay System

The required properties of the overlay system are listed in the table below:

Property	Requirement [A]	Test Method
Minimum Compressive Strength at 8 Hrs. (psi)	1,000 psi @ 8 hrs 5,000 psi @ 24 hrs	ASTM C 579 Method B, Modified [B]
Thermal Compatibility	No Delaminations	ASTM C 884
Minimum Pull-off Strength	250 psi @ 24 hrs	ACI 503R, Appendix A

[A] Based on samples cured or aged and tested at 75°F

[B] Plastic inserts that will provide 2-inch by 2-inch cubes shall be placed in the oversized brass molds.

B.5 Approval of Bridge Deck Polymer Overlay System

A minimum of 20 working days prior to application, submit product data sheets and specifications from the manufacturer, and a certified test report to the engineer for approval. The engineer may request samples of the polymer and/or aggregate, prior to application, for the purpose of acceptance testing by the department.

For materials not pre-qualified, in addition to the above submittals, submit product history/reference projects and a certified test report from an independent testing laboratory showing compliance with the requirements of the specification.

The product history/reference projects consist of a minimum of 5 bridge/roadway locations where the proposed overlay system has been applied in Wisconsin or in locations with a similar climate - include contact names for the facility owner, current phone number or e-mail address, and a brief description of the project.

Product data sheets and specifications from the manufacture consists of literature from the manufacturer showing general instructions, application recommendations/methods, product properties, general instructions, or any other applicable information.

C Construction

C.1 General

Conduct a pre-installation conference with the manufacturer's representative prior to construction to establish procedures for maintaining optimum working conditions and coordination of work. Furnish the engineer a copy of the recommended procedures and apply the overlay system according to the manufacturer's instructions. The manufacturer's representative familiar with the overlay system installation procedures shall be present at all times during surface preparation and overlay placement to provide quality assurance that the work is being performed properly.

Store resin materials in their original containers in a dry area. Store and handle materials according to the manufacturer's recommendations. Store all aggregates in a dry environment and protect aggregates from contaminants on the job site.

C.2 Deck Preparation

C.2.1. Deck Repair

Remove all asphaltic patches and unsound or disintegrated areas of the concrete decks as the plans show, or as the engineer directs. Work performed to repair the concrete deck will be paid for under the item for deck patching. Ensure that products used for deck patching are compatible with the polymer overlay system.

NOTE: Some polymer systems require concrete patch material to be in place a minimum of 28-days before overlaying - contact polymer manufacturer before completing deck patching/repair.

C.2.2 Surface Preparation

Determine an acceptable shotblasting machine operation (size of shot, flow of shot, forward speed, and/or number of passes) that provides a surface a profile meeting CSP 5 according to the International Concrete Repair Institute Technical Guideline No. 03732. If the engineer requires additional verification of the surface preparation, test the tensile bond strength according to ACI 503R, Appendix A of the ACI *Manual of Concrete Practice*. The surface preparation will be considered acceptable if the tensile bond strength is greater than or equal to 250 psi or the failure area at a depth of ¼ inches or more is greater than 50% of the test area. Continue adjustment of the shotblasting machine and necessary testing until the surface is acceptable to the engineer or a passing test result is obtained.

Prepare the entire deck using the final accepted adjustments to the shotblasting machine as determined above. Thoroughly blast clean with hand-held equipment any areas inaccessible by the shotblasting equipment. Do not perform surface preparation more than 24 hours prior to the application of the overlay system.

Just prior to overlay placement, clean all dust, debris, and concrete fines from the deck surface including vertical faces of curbs and barrier walls up to a height of 1 inch above the overlay with compressed air. When using compressed air, the air stream must be free of oil. Any grease, oil, or other foreign matter that rests on or has absorbed into the concrete shall be removed completely.

Cover the bridge deck drains and bridge expansion joints to prevent materials from adhering and entering.

Create a transitional area approaching transverse expansion joints and ends of the deck using the shotblasting machine or other approved method. Remove 5/16" to 3/8" of concrete adjacent to the joint or end of deck and taper a distance of 3 feet.

The engineer may consider alternate surface preparation methods per the overlay system manufacture's recommendations. The engineer will approve the final surface profile and deck cleanliness prior to the contractor placing the polymer overlay.

C.3 Application of the Overlay

Perform the handling and mixing of the polymer resin and hardening agent in a safe manner to achieve the desired results according to the manufacturer's instructions. Do not apply the overlay system if any of the following exists:

a. Ambient air temperature is below 50^{o}F;
b. Deck temperature is below 50^{o}F;
c. Moisture content in the deck exceeds 4.5% when measured by an electronic moisture meter or shows visible moisture after 2 hours when measured in accordance to ASTM D4263;
d. Rain is forecasted during the minimum curing periods listed under C.5 ;
e. Materials component temperatures below 50^{o}F;
f. Concrete age is less than 28 days unless approved by the engineer.

After the deck has been shotblasted or during the overlay curing period, only necessary surface preparation and overlay application equipment will be allowed on the deck. Begin overlay placement as soon as possible after surface preparation operations.

The polymer overlay shall consist of a two-course application of polymer and aggregate. Each of the two courses shall consist of a layer of polymer covered with a layer of aggregate in sufficient quantity to completely cover the polymer. Apply the polymer and aggregate according to the manufacturer's requirements. Apply the overlay using equipment designed for this purpose. The application machine shall feature positive displacement volumetric metering and be capable of storing and mixing the polymer

resins at the proper mix ratio. Disperse the aggregate using a standard chip spreader or equivalent machine that can provide a uniform, consistent coverage of aggregate. First course applications that do not receive enough aggregate before the polymer gels shall be removed and replaced. A second course applied with insufficient aggregate may be left in place, but will require additional applications before opening to traffic.

After completion of each course, cure the overlay according to the manufacturer's instructions. Follow the minimum cure times listed under C.5 or as prescribed by the manufacturer. Remove the excess aggregate from the surface treatment by sweeping, blowing, or vacuuming without tearing or damaging the surface; the material may be re-used if approved by the engineer and manufacturer. Apply all courses of the overlay system before opening the area to traffic. Do not allow traffic on the treated area until directed by the engineer.

After the first layer of coating has cured to the point where the aggregate cannot be pulled out, apply the second layer. Prior to applying the second layer, broom and blow off the first layer with compressed air to remove all loose excess aggregate.

Prior to opening to traffic, clean expansion joints and joint seals of all debris and polymer. If required by the engineer, a minimum of 3 days following opening to traffic, remove loosened aggregates from the deck, expansion joints, and approach pavement.

C.4 Application Rates

Apply the polymer overlay in two separate courses in accordance to the manufacturer's instructions, but not less than the following rate of application.

Course	Minimum Polymer Rate [A] (GAL/100 SF)	Aggregate [B] (LBS/SY)
1	2.5	10+
2	5.0	14+

[A] The minimum total applications rate is 7.5 GAL/100 SF.

[B] Application of aggregate shall be of sufficient quantity to completely cover the polymer.

C.5 Minimum Curing Periods

As a minimum, cure the coating as follows:

	Average temperature of deck, polymer and aggregate components in °F					
Course	60-64	65-69	70-74	75-79	80-84	85+
1	4 hrs.	3 hrs.	2.5 hrs	2 hrs	1.5 hrs.	1 hr.
2 *	6.5 hrs.	5 hrs.	4 hrs.	3 hrs.	3 hrs.	3 hrs.

*Cure course 2 for 8 hours if the air temperature drops below 60° F during the curing period.

D Measurement
The department will measure Polymer Overlay in area by the square yard, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
509.5100.S	Polymer Overlay	SY

Payment is full compensation for preparing the surface; for tensile bond testing; for providing the overlay; for cleanup; and for sweeping/vacuuming and disposing of excess materials. Concrete Deck Repair will be paid for separately.
509-030 (20120615)

28. Architectural Surface Treatment B-28-131, Item 517.1050.S.01; B-28-132, Item 517.1050.S.02.

A Description
Construct a concrete masonry architectural surface treatment on the exposed concrete surfaces of the structure, as detailed in the plans and as hereinafter provided.

B Materials
Use form liners that attach easily to the forming system, and do not compress more than ¼-inch when poured at a rate of 10 vertical feet/hour.

Use a release agent that is compatible with the form liner and coloring materials.

Wall ties shall have set "break-backs" at a minimum of ¾-inches from the finished concrete surface.

C Construction
C.1 Equipment
Equipment and tools necessary for performing all parts of the work shall be satisfactory as to design, capacity, and mechanical condition for the purposes intended. Repair, improve, replace, or supplement all equipment that is not maintained in full working order, or which is proven inadequate to obtain the results prescribed.

C.2 Form Liner Preparation
Clean the form liner prior to each pour and ensure that it is free of any build-up. Visually inspect each liner for blemishes or tears, and repair if necessary per manufacturer's recommendations.

Apply form release per manufacturer's recommendations.

C.3 Form Liner Attachment
Place adjacent liners less than ¼-inch from each other, attach liner securely to forms in accordance to the manufacturer's recommendations, and coordinate wall ties with form liner and form manufacturer, e.g., diameter, size, and frequency.

C.4 Surface Finishing
Ensure that the textured surface is free of laitance; sandblasting is not permitted.

Grind or fill pouring blemishes.

D Measurement
The department will measure Architectural Surface Treatment (Structure) in area by the square foot of architectural surface, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
517.1050.S.01	Architectural Surface Treatment B-28-131	SF
517.1050.S.02	Architectural Surface Treatment B-28-132	SF

Payment is full compensation for producing the proposed architectural surface treatment including: preparing the foundation; finishing and protecting the surface treatment; and for properly disposing of surplus material.
517-150 (20110615)

29. Culvert Pipe Temporary, 15-Inch, Item 520.4015.

Conform to the requirements of standard spec 504 and as hereinafter specified. The temporary culvert required from Station 653+00 – 657+00 shall be concrete.

30. Culvert Pipe Temporary, 24-Inch, Item 520.4024.

Conform to the requirements of standard spec 504 and as hereinafter specified. Once the temporary culvert is removed from the median inlet at Station 615+00, the hole shall be plugged with Grade A concrete masonry. Payment for plugging the temporary culvert pipe hole is incidental to this item, including: properly disposing of surplus material; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

31. Wall Modular Block Mechanically Stabilized Earth, Item 532.0300.S.

A Description
This special provision describes designing, furnishing materials and erecting a permanent earth retention system in accordance to the lines, dimension, elevations and details as shown on the plans and provided in the contract. The design life of the wall and all wall components shall be 75 years.

B Materials

B.1 Proprietary Mechanically Stabilized Earth Modular Block Wall Systems

The department specifies approved modular block mechanically stabilized earth wall products on the department's approved product list.

Proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures, Structures Development Section. The name of the companies supplying pre-approved material shall be furnished within 25 days after the award of contract. The department maintains a list of pre-approved systems of retaining walls. To be eligible for use on this project, a system must have been pre-approved and added to that list prior to the bid opening date.

Applications for pre-approval may be submitted at any time. Applications must be prepared in accordance to the requirements of chapter 14 of the department's Bridge Manual. Information and assistance with the pre-approval process can be obtained by contacting the Structures Development Section in Room 601 of the Hill Farms State Transportation Building in Madison or by calling (608) 266-8494.

B.2 Design Requirements

It is the responsibility of the contractor to supply a design and supporting documentation as required by this special provision for review by the department to show the proposed wall design is in compliance with the design specifications.

The design/shop plans shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 8 ½ inch x 11 inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the Wall Modular Block Mechanically Stabilized Earth shall consider the internal stability of the wall mass, including the reinforcement pullout resistance. The design shall be in compliance with the current AASHTO Standard Specifications for Highway Bridges including interim specifications, the standard specifications, and standard engineering design procedures as determined by the department. The walls shall be designed for the heights shown on the plans and 100% of the soil reinforcement shall be connected to the wall facing. The maximum value of the angle of internal friction of the wall backfill material shall be assumed to be 30 degrees without a certified report of tests. If a certified report of tests yields an angle of internal friction greater than 30 degrees, the larger test value may be used for design, up to a maximum value of 36 degrees.

The embedment to the top of the leveling pad shall be 1 foot 6 inches or as specified in the plan or AASHTO section 5.8.1 minimum, whichever is greater. Potential depth of frost penetration at the wall location shall not be considered in designing the wall for depth of leveling pad. Vertical earth pressure shall be determined using the Meyerhof distribution. A connection factor of safety of 1.5 at 0.75 inch deformation is required. A geosynthetic waterproof membrane is not required to cover the reinforced mass.

The minimum length of soil reinforcement measured from the back face of the wall shall be equal to 0.7 the wall height or as shown on the plan. In no case shall this length be less than 6 feet. The soil reinforcement shall extend 3 feet beyond the theoretical failure plane in all cases. The maximum vertical spacing of soil reinforcement layers shall be two times the block depth (front face to back face) or 32 inches, whichever is less. The first (bottom) layer of reinforcement shall be placed no further than 12 inches above the top of the leveling pad, but at least one block height above the leveling pad. The last (top) layer of soil reinforcement shall be no further than 24 inches below the top of the uppermost block.

Submit the following to the engineer for review: complete design calculations, explanatory notes, specifications, and detailed plans and shop drawings for the proposed wall system. Submit them no later than 21 days prior to beginning construction of the wall. The detailed plans and shop drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the walls. The design calculations and notes shall clearly indicate the factor of safety against pullout and the design soil pressure beneath the wall footing and retained earth mass. Four copies of shop drawings and two copies of the design calculations and supporting materials shall be submitted.

B.3 Wall System Components

Materials furnished under this contract shall conform to the requirements hereinafter provided.

B.3.1 Leveling Pad

For all walls over 5 feet tall measured from the top of the leveling pad to the top of the wall, provide a wall leveling pad that consists of poured concrete masonry, 6 inches deep by 12 inch (minimum) wide Grade A conforming to standard spec 501 as modified in standard spec 716. Provide QMP for class II concrete as specified in standard spec 716. The leveling pad shall be as wide as the proposed blocks or a minimum of 12 inches whichever is greater. The bottom row of blocks shall be horizontal and 100% of the block surface shall bear on the leveling pad. If any portion of the wall is over 5 feet tall, a concrete leveling pad shall be used for the entire length of the wall. All walls with a structure number assigned (such as R-XX-XXX) shall be built using the concrete leveling pad given above, regardless of wall height. The leveling pad shall step to follow the general slope of the ground line. The leveling pads steps shall keep the bottom of the wall within one block thickness of the minimum embedment, i.e., a minimum embedment plus an additional embedment of up to one block's thickness. Additional embedment may be detailed, but will not be measured for payment.

For walls that are less than or equal to 5 feet in height and do not have a wall number assigned to them, a compacted 1 foot deep by 2 foot wide leveling pad made from base aggregate dense 1¼-inch in conformance with standard spec 305 may be used.

B.3.2 Wall Facing

Wall facing units shall consist of precast modular concrete blocks. All units shall incorporate a mechanism or devices that will develop a mechanical connection between vertical block layers. Units that are cracked, chipped, or have other imperfections in accordance to ASTM C1372 or excessive efflorescence shall not be used within the wall. A single block type and style shall be used throughout each wall. The color and surface texture of the block shall be as given on the plan or chosen by the engineer.

The top course of facing units shall be a solid precast concrete unit designed to be compatible with the remainder of the wall. The finishing course shall be bonded to the underlying facing units with a durable, high strength, flexible adhesive compound compatible with the block material. A formed cast-in-place concrete cap may also be used to finish the wall. A cap of this type shall be designed to have texture, color, and appearance that complement the remainder of the wall. The vertical dimension of the cap shall not be less than 3½ inches. Expansion joints shall be placed in the cap to correspond with each 24 inch change in vertical wall height or at a maximum spacing of 10 feet. Concrete for all cast-in-place caps shall be Grade A and shall conform to the requirements of standard spec 501.

Block dimensions may vary no more than ±1/8 inch from the standard values published by the manufacturer in accordance to ASTM C1372. Blocks must have a minimum depth (front face to back face) of 8 inches. The minimum front face thickness of blocks shall be 4 inches measured perpendicular from the front face to inside voids greater than 4 square inches. Also the minimum allowed thickness of any other portions of the block is 2 inches. The front face of the blocks shall conform to plan requirements for color, texture, or patterns.

Cementitious materials and aggregates for modular blocks shall conform to the requirements of ASTM C1372 section 4.1 and 4.2. Modular blocks shall meet the following requirements.

Test	Method	Requirement
Compressive Strength (psi)	ASTM C140	5000 min.
Water Absorption (%)	ASTM C140	6 max.
Freeze-Thaw Loss (%) 40 cycles, 5 of 5 samples 50 cycles, 4 of 5 samples	ASTM C1262[1]	 1.0 max.[2] 1.5 max.[2]

[1] Test shall be run using a 3% saline solution.

[2] Test results that meet either of the listed requirements for Freeze-Thaw Loss are acceptable.

All blocks shall be certified as to strength, absorption, and freeze-thaw requirements unless, due to contract changes after letting, certified blocks are not available when required. At the time of delivery of certified blocks, furnish the engineer a certified test report from a department-approved independent testing laboratory for each lot of modular blocks. The certified test report shall clearly identify the firm conducting the sampling and testing, the type of block, the date sampled, name of the person who conducted the sampling, the represented lot, the number of blocks in the lot, and the specific test results for each of the stated requirements of this specification. A lot shall not exceed 5000 blocks. The certified test results will represent all blocks within the lot. Each pallet of blocks delivered shall bear lot identification information. Block lots that do not meet the requirements of this specification or blocks without supporting certified test reports will be rejected and shall be removed from the project at no expense to the department.

A department-approved independent testing laboratory shall control and conduct all modular block sampling and testing for certification. Prior to sampling, the manufacturer's representative shall identify all pallets of modular blocks contained in each lot. All pallets of blocks within the lot shall be numbered and marked to facilitate random sample selection.

The representative of the independent testing laboratory shall identify five pallets of blocks by random numbers and shall then select one block from each of these pallets. Solid blocks used as a finishing or top course shall not be selected. The selected blocks shall remain under the control of the person who conducted the sampling until shipped or delivered to the testing laboratory. All pallets of blocks within a lot shall be strapped or wrapped to secure the contents and tagged or marked for identification. The engineer will reject any pallet of blocks delivered to the project without intact security measures. At no expense to the department, the contractor shall remove all rejected blocks from the project.

The department may conduct testing of certified or non-certified modular blocks lots delivered to the project. The department will not do freeze-thaw testing on blocks less than 45 days old. If a random sample of five blocks of any lot tested by the department fails to meet any of the requirements of this specification (nonconforming), the contractor shall remove from the project site all blocks from the failed lot not installed in the finished work at no cost to the department, unless the engineer allow otherwise. Nonconforming blocks installed in the finished work will be considered approved by the department as stated in standard spec 106.5(2) and any adjustment to the contract price will not exceed the price of the blocks charged by the supplier.

B.3.3 Geogrids

Geogrid supplied as reinforcing members shall be manufactured from long chain polymers limited to polypropylene, high-density polyethylene, polyaramid, and polyester.

Geogrids shall form a uniform rectangular grid of bonded, formed, or fused polymer tensile strands crossing with a nominal right angle orientation. The minimum grid aperture shall be 0.5 inch. The geogrid shall maintain dimension stability during

handling, placing, and installation. The geogrid shall be insect, rodent, mildew, and rot resistant.

The geogrid shall be furnished in a protective wrapping that shall prevent exposure to ultraviolet radiation and damage from shipping or handling. The geogrid shall be kept dry until installed. Each roll shall be clearly marked to identify the material contained.

The wall designer shall supply the allowable Tension Reinforcement Load (T_A) used in the design for each reinforcement layer. The wall system composed of geogrid and modular blocks shall be from a preapproved supplier. The current list of preapproved geogrids and their corresponding modular blocks is maintained by the department's Structures Development Section and may be obtained by calling (608) 266-8494. Only geogrid and modular blocks preapproved before contract letting will be allowed in the construction of the wall.

The value of T_A for a specific geogrid shall be the lowest value as determined by the following two methods for each layer used.

1. The Ultimate Tensile Strength (T_{ult}) divided by the factors RF_{ID}, RF_{CR}, RF_D and FS.

   Hence,

$$T_A = \frac{T_{ult}}{RF_{ID} \times RF_{CR} \times RF_D \times FS}$$

   where:

   T_{ult} = is the ultimate tensile strength of the reinforcement determined from wide width tensile tests (ASTM D4595) for geogrids, or rib tensile test (GRI:GG1), but at a strain rate of 10% per minute.

   RF_{ID} = strength reduction factor to account for installation damage to the reinforcement. In no case shall RF_{ID} be less than 1.1.

   RF_{CR} = strength reduction factor to prevent long-term creep rupture of the reinforcement. In no case shall RF_{CR} be less than 1.2.

   RF_D = strength reduction factor to prevent rupture of the reinforcement due to chemical and biological degradation. In no case shall RF_D be less than 1.1.

   FS = a global safety factor which accounts for uncertainties in structure geometry, fill properties, externally applied loads, overstress due to load nonuniformities, and uncertainties in long-term reinforcement strength shall be 1.5.

Values for RF_{ID}, RF_{CR}, and RF_D shall be determined from product specific test results.

Guidelines for how to determine RF_{ID}, RF_{CR}, and RF_D from product specific data are provided in FHWA Publication No. FHWA SA-96-071 "Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines" Appendix B, and in FHWA Publication No. FHWA SA-96-072 "Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes."

2 The geogrid connection load (T_B) divided by the factor FS = 1.5. Hence,

$$T_A = \frac{T_B}{FS}$$

The Geogrid Connection Load (T_B) is defined as the maximum tension load that may be developed in a geogrid reinforcement layer that will result in no more than 0.75 inches of deformation. This value shall be determined from tests conducted on the same facing blocks and grids as proposed for the wall and shall cover a range of overburden pressures comparable to those anticipated in the proposed wall. The value of T_B for any specific layer shall be determined for the overburden pressure applied to that specific layer. The test shall be conducted on grid samples at least 8 inches wide and at a rate of elongation not exceeding 0.05 inches per minute. The geogrid shall remain normal to the block face during loading. The contractor shall provide to the engineer all load test data used to determine the value of T_B.

Submit the following items for the review and acceptance of the engineer.

1. The Allowable Reinforcement Tension Load (T_A) for the geogrid to be supplied.
2. The values of T_{ult}, RF_{ID}, RF_{CR}, RF_D, and T_B used to determine T_A.

Work on the wall shall not begin until the engineer accepts these submittals.

B.3.4 Galvanized Metal Reinforcement

In lieu of polymeric geogrid earth reinforcement, galvanized metal reinforcement may be used. Design and materials shall be in accordance to section 5.8.6.1.1 of the current AASHTO Specifications.

B.3.5 Connectors

Pins, rods, clips, or other devices used to develop mechanical interlock between facing unit block layers shall be manufactured from corrosion resistant materials. Furnish documentation that establishes and substantiates the design life of such devices.

B.3.6 Backfill Materials

Wall Backfill, Type A, shall comply with the requirements for Coarse Aggregate No. 1 as given in standard spec 501.2.5.4.4. All backfill placed within a zone from the base of the leveling pad to the top of the final layer of wall facing units and within 1 foot behind the back face of the wall shall be Wall Backfill, Type A. This includes all material used to fill openings in the wall facing units.

Wall Backfill, Type B, shall comply with the requirements for Grade 1 Granular Backfill as contained in standard spec 209.2.2. All backfill placed in a zone extending horizontally from 1 foot behind the back face of the wall to 1 foot beyond the end of the reinforcement and extending vertically from the base of the leveling pad to the top of the final layer of all facing units shall be Wall Backfill, Type B.

All backfill within the reinforced zone shall meet the following pH and Angle of Internal Friction requirements.

Test	Method	Value
pH	AASHTO T-289	4.5 – 10.0
Sulfate content[1]	AASHTO T-290	200 ppm max.
Chloride content[1]	AASHTO T-291	100 ppm max.
Electrical Resistivity[1]	AASHTO T-288	3000 ohm/cm min.
Angle of Internal Friction	AASHTO T-236	30 degrees min.

[1] Backfill used on walls with metallic reinforcement shall also meet this requirement.

Prior to placement of the backfill, obtain and furnish to the engineer certified report of test results that the backfill material complies with the requirements of this specification. Tests will be performed by a certified independent laboratory. When backfill characteristics and/or sources change, a certified report of tests will be provided for the new backfill material.

All other backfill materials required to finish the wall and restore the ground surface may be select material available on the project that meets the engineer's approval.

C Construction

C.1 General

Place the wall facing units in accordance with the manufacturer's instructions and to the lines, elevations, batter, and tolerances as shown on the plans. Center the initial layer of facing units on the leveling pad; then level them and properly align them. Fill formed voids or openings in the facing units with wall backfill, Type A. Remove all debris on the top of each layer of facing units, before placing the next layer of facing units.

Install all pins, rods, clips, or other devices used to develop mechanical interlock between facing unit layers in accordance to the manufacturer's directions.

All excavation for the Wall Modular Block Mechanically Stabilized Earth shall conform to standard spec 206. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the front face of the wall.

C.2 Backfill

Place backfill materials in the areas as indicated on the plans and as detailed in this specification. Backfill lifts shall be no more than 8-inches in depth. Backfilling shall closely follow erection of each course of wall facing units. Compact wall backfill Type A with at least three passes of lightweight manually operated compaction equipment acceptable to the engineer.

Compact wall backfill Type B as specified in standard spec 207.3.6. For walls with a maximum height of any portion greater than 5 feet, compact Wall Backfill Type B to 95.0% of maximum density as determined by AASHTO T-99, Method C. Perform compaction testing on the backfill. When performing nuclear testing, use a nuclear gauge from the department's approved list, ensure that the operator is a HTCP certified Nuclear Density Technician I, and conform to CMM 8.15 for testing and gauge monitoring methods. Conduct testing at a minimum frequency of 1 test per 2-foot layer per 200 feet of wall, or major portion thereof. A minimum of one test for every 2-foot layer is required. Test sites shall be selected using ASTM Method D3665. Deliver documentation of all compaction testing results to the engineer at the time of testing. The department may perform quality control compaction tests on walls less than 5 feet in height to ensure compliance with standard spec 207.3.6.

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the wall facing units, soil reinforcement, or other wall components. At no expense to the department, correct any such damage or misalignment as directed by the engineer. A field representative of the wall supplier shall be available during wall construction to provide technical assistance to the contractor and the engineer.

Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. The MSE reinforcement shall lay horizontally on top of the most recently placed and compacted layer of MSE backfill.

Do not operate tracked or wheeled equipment on the backfill within 3 feet from the back face of modular blocks. The engineer may order the removal of any large or heavy equipment that may cause damage or misalignment of the wall facing units.

C.3 Soil Reinforcement

Place soil reinforcement at the positions and to the lengths as indicated on the accepted shop drawings. Take care that backfill placement over the positioned soil reinforcement elements does not cause damage or misalignment of these elements. Correct any such damage or misalignment as directed by the engineer. Do not operate wheeled or tracked

equipment directly on the soil reinforcement. A minimum cover of 6 inches is required before such operation is allowed.

C.4 Geogrid Layers

Place and anchor geogrid material between wall unit layers in the same manner as used to determine the Geogrid Connection Load (T_B). Place the grid material so that the machine direction of the grid is perpendicular to the wall face. Each grid layer shall be continuous throughout the lengths indicated on the plans. Join grid strips with straps, rings, hooks or other mechanical devices to prevent movement during backfilling operations. Prior to placing backfill on the grid, pull the grids taunt and hold in position with pins, stakes or other methods approved by the engineer.

C.5 Steel Layers

Place the steel reinforcement full width in one piece as shown on the plans. No splicing will be allowed. Maintain elements in position during backfilling.

C.6 Geotechnical Information

Geotechnical data to be used in the design of the wall is given on the wall plan. The allowable soil bearing capacity is given on the plan. After completing the excavation of the entire reinforced zone, the department's Regional Soils Engineer will inspect the site and determine if the foundation is adequate for the intended loads. Allow the Regional Soils Engineer two working days to perform the inspection.

D Measurement

The department will measure Wall Modular Block Mechanically Stabilized Earth in area by the square foot of face on a vertical plane between the top of the leveling pad and a line indicating the top of wall including wall cap or copings as required and shown on the plans. Unless ordered by the engineer, wall area constructed above or below these limits will not be measured for payment.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
532.0300.S	Wall Modular Block Mechanically Stabilized Earth	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of surplus materials; supplying all necessary wall components to produce a functional system including cap and copings; constructing the retaining system; providing backfill, backfilling and compacting; and performing compaction testing. Parapets, railings, and other items above the wall cap or coping will be paid for separately.

Any required topsoil, fertilizer, seeding or sodding and mulch will be paid for at the contract unit price of topsoil, fertilizer, seeding or sodding and mulch, respectively.
532-031 (20120615)

32. Cover Plates Temporary, Item 611.8120.S.

A Description
This special provision describes furnishing, installing and removing a steel plate to cover and support asphaltic pavement and traffic loading at manholes, inlets and similar structures during milling and paving operations.

B Materials
Provide a 0.25-inch minimum thickness steel plate that extends to the outside edge of the existing masonry.

C (Vacant)

D Measurement
The department will measure Cover Plates Temporary as units, acceptably completed in place.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
611.8120.S	Cover Plates Temporary	Each

Payment is full compensation for furnishing, installing, and removing the cover plates.

The steel plates shall become the property of the contractor when no longer needed in the contract work.
611-006 (20030820)

33. Pipe Grates, Item 611.9800.S.

A Description
This special provision describes furnishing and installing pipe grates on the ends of pipes as shown in the plans, and as hereinafter provided.

B Materials
Furnish steel conforming to the requirements of standard spec 506.2.2.1. Furnish steel pipe conforming to the requirements of standard spec 506.2.3.6.

Furnish pipe grates galvanized in accordance to ASTM A123.

Furnish angles and brackets galvanized in accordance to ASTM A123.

Furnish required hardware galvanized in accordance to ASTM A153.

C Construction
Repair pipes, rods, angles and brackets on which the galvanized coating has been damaged in accordance to the requirements of AASHTO M36M.

D Measurement
The department will measure Pipe Grates in units of work, where one unit is one grate, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
611.9800.S	Pipe Grates	Each

Payment is full compensation for furnishing and installing all materials; and for drilling and connecting grates to pipes.
611-010 (20030820)

34. Fence Safety, Item 616.0700.S.

A Description
This special provision describes furnishing and installing a plastic fence at locations shown on the plans and as hereinafter provided.

B Materials
Furnish notched conventional metal "T" or "U" shaped fence posts.

Furnish fence fabric meeting the following requirements.

Color:	International orange (UV stabilized)
Roll Height:	4 feet
Mesh Opening:	1 inch min to 3 inch max
Resin/Construction:	High density polyethylene mesh
Service Temperature:	-60° F to 200° (ASTM D648)
Tensile Yield:	Avg. 2000 lb per 4 ft. width (ASTM D638)
Ultimate Tensile Strength:	Avg. 3000 lb per 4 ft. width (ASTM D638)
Elongation at Break (%):	Greater than 100% (ASTM D638)
Chemical Resistance:	Inert to most chemicals and acids

C Construction
Drive posts into the ground 12 to 18 inches. Space posts at 7 feet.

Use a minimum of three wire ties to secure the fence at each post. Weave tension wire through the top row of strands to provide a top stringer that prevents sagging.

Overlap two rolls at a post and secure with wire ties.

D Measurement
The department will measure Fence Safety by the linear foot along the base of the fence, center-to-center of posts.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
616.0700.S.	Fence Safety	LF

Payment is full compensation for furnishing and installing fence and posts; maintaining the fence and posts in satisfactory condition; and for removing and disposing of fence and posts at project completion.
616-030 (20070510)

35. Field Facilities.

Replace standard spec 642.2.2.4 with the following:

Furnish a facility with a minimum area of 950 square feet.

36. Furnishing and Planting Plant Materials.

A Description
This section describes furnishing and planting trees and shrubs of the species, varieties and sizes specified in the fall 2013 planting season, in accordance to standard spec 632, and as hereinafter provided at the locations shown in the plan.

B Materials
B.1 Plant Materials.
All plants shall be grown within the states of Wisconsin, Minnesota, Iowa, Michigan, or the parts of Illinois, Indiana or Ohio located within Zone 5 of the "Plant Hardiness Zone Map" produced by the United States Department of Agriculture, Miscellaneous Publication No. 475, issued January 1990, unless otherwise approved by the engineer.

A list of sources for plants shall be furnished in accordance to standard spec 632.2.2.8 before planting begins for fall-planted plants. All sources will be subject to verification by the engineer.

B.2 Mulch.
Mulch shall be wood chips as described in standard spec 632.2.6

B.3 Rodent Protection.
Rodent protection for tall-growing trees shall be a minimum 4-foot-long double layer of commercial screen wire- mesh acceptable to the engineer and installed as shown on the Planting Detail sheet and described in these special provisions.

C Construction

C.1 Plant Establishment and Replacement

Supplement standard spec 632.3.18.1 as follows:

A two-year plant establishment period (PEP) is required in accordance to standard spec 632.3.18.1.2.

C.2 Excavation of Planting Holes.

Supplement standard spec 632.3.4 as follows:

The minimum horizontal measurement of the plant hole shall not be less than 24 inches (600 mm) greater than the diameter of the ball, container or root mass for the full depth of the planting hole.

The bottom of the planting hole shall be undisturbed. The bottom of the rootball shall be in direct contact with the bottom of the hole. No extra fill shall be added to the bottom of the hole.

C.3 Pruning.

Supplement standard spec 632.3.5 as follows:

All pruning shall be done in accordance to American National Standards Institute publication ANSI A300, "Tree, Shrub and Other Woody Plant Maintenance – Standard Practices".

37. Landscape Planting Surveillance and Care Cycles.

If the care specialist fails to perform any of the required care cycles as specified in standard spec 632.3.19.1, the department will assess daily damages in the amount of $500 to cover the cost of performing the work with other forces. The department will assess these damages for each day the requirements of the care cycle remain incomplete, except when the engineer extends the required time period.

632-005 (20070510)

38. Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch, Item 646.0841.S; 8-Inch, Item 646.0843.S.

A Description

This special provision describes furnishing, grooving and installing preformed wet reflective pavement marking contrast tape for grooved applications as shown on the plans, according to standard spec 646, and as hereinafter provided.

B Materials

Furnish wet reflective pavement marking contrast tape and adhesive material, per manufacturer's recommendation if required, from the department's approved products list.

Furnish a copy of the manufacturer's recommendations to the engineer before preparing the pavement marking grooves.

C Construction

C.1 General

For quality assurance, provide the project engineer and the region's Marking Section evidence of manufacturer training in the proper placement and installation of pavement marking contrast tape.

Plane the grooved lines according to details in the plan and per manufacturer's recommendations. Use grooving equipment with a free-floating, independent cutting head. Plane a minimum number of passes to create a grooved surface per manufacturer's recommendations.

C.2 Groove Depth

Cut the groove to a depth of 120 mils ± 10 mils from the pavement surface or, if tined, from the high point of the tined surface. To measure the depth, the contractor may use a depth plate placed in the groove and a straightedge placed across the plate and groove, or the contractor may use a straightedge placed perpendicular to the groove. The department may periodically check groove depths.

C.3 Groove Width – Longitudinal Markings

Cut the groove one-inch wider than the width of the tape.

C.4 Groove Position

Position the groove edge according to plan details. Groove a minimum of 4 inches, but not greater than, 12 inches from both ends of the tape segment. Achieve straight alignment with the grooving equipment.

C.5 Groove Cleaning

C.5.1 Concrete

Cooling the cutting head with water may be necessary for some applications and equipment. If cooling water is necessary, flush the groove immediately with high-pressure water after cutting to remove any build-up of cement dust and water slurry. If this is not done, the slurry may harden in the groove.

If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, and prior to pavement marking application. The groove surface shall be clean and dry before applying the adhesive, and the pavement marking tape. Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to clean the groove; use of the air blower does not decrease the amount of time required for the groove to dry.

C.5.2 New Asphalt
Groove pavement five or more days after paving.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

C.5.3 Existing Asphalt
Check for structural integrity in supporting grooving operations. If the structural integrity of the asphalt pavement is inadequate to support grooving operations, immediately notify the engineer.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

C.6 Tape Application
Apply the tape when both the air and surface temperature are 40 degrees F and rising.

Apply tape in the groove as per manufacturer's recommendations. If manufacturer's recommendations require surface preparation adhesive

1) For the Southeast Region and the ozone non-attainment Northeast Region counties of Sheboygan, Manitowoc, and Kewaunee:

    - Apply SPA-60 during May 1 to September 30, both dates inclusive due to Volatile Organic Compound Limitations..

    - Apply P-50 during October 1 to April 30, both dates inclusive. –

2) For the remainder counties:

    - Apply either adhesive.

Refer to the manufacturer's instructions for determining when the surface preparation adhesive is set.

Tamp the wet reflective pavement marking contrast tape with a tamper cart roller, with a minimum of a 200-lb load, cut to fit the groove. Tamp a minimum of three complete cycles (6 passes) with grooved modified tamper roller cart.

D Measurement
The department will measure Pavement Marking Grooved Wet Reflective Contrast Tape (Width) for grooved applications in length by the linear foot of tape placed according to the contract and accepted.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF
646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF

Payment is full compensation for cleaning and preparing the pavement surface; furnishing and installing the material; and for removing temporary pavement marking, if necessary.

646-022 (20120615)

39. Concrete Surface Drains Special, Item SPV.0035.01.

A Description

This special provision describes furnishing and installing concrete surface drains as shown on the plans or as directed by the engineer, or both, and as hereinafter provided.

B Materials

Steel reinforcement shall conform to standard spec 416.2.

Concrete materials shall be placed and cured conforming to standard spec 415.3.

C Construction

Place and construct concrete surface drains special to the dimensions and in accordance to the details shown in the plans and standard spec 416.3.

D Measurement

The department will measure Concrete Surface Drains Special by the cubic yard, acceptably completed, based on the dimensions on the plans show or the engineer directs

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.01	Concrete Surface Drains Special	CY

Payment is full compensation for providing surface drains; for steel reinforcement and dowel and tie bars; and for excavating, preparing the subgrade and aggregate base, and backfilling.

40. Temporary Stone Ditch Checks, Item SPV.0035.02.

A Description

This special provision describes furnishing and installing stone or rock ditch checks as shown on the plans or as directed by the engineer, or both, and as hereinafter provided.

B Materials

Provide materials conforming to size requirements for size no. 2 coarse aggregate for concrete masonry or riprap in accordance to the standard spec 501.2.5.4.4. Railroad ballast or breaker run stone conforming to the following applicable gradations may also be used:

Railroad Ballast

Sieve Size	Percent by Weight Passing
2 Inch	100
1 Inch	20 – 55
3/8 Inch	0 -5

Breaker Run Stone

Sieve Size	Percent by Weight Passing
5 Inch	100
1½ Inch	0 – 50
3/8 Inch	0 - 5

Incorporate stone or rock in the ditch checks that is hard, sound, and durable, and meets the approval of the engineer.

C Construction

Place stone or rock ditch checks immediately after shaping of the ditches or slopes is completed. Place stone or rock ditch checks at right angles to the direction of flow and construct to the dimensions and in accordance to the details shown in the plans.

Remove sediment from behind the stone or rock ditch checks when it has accumulated to one half of the original height of the dam.

Remove temporary stone ditch checks and re-grade as needed to restore area as directed by engineer in the field. Seed, fertilizer, mulch, and erosion mat needed to finish site after removal of temporary stone ditch checks will be paid for separately.

D Measurement

The department will measure Temporary Stone Ditch Checks in volume by the cubic yard of material incorporated in the work, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.02	Temporary Stone Ditch Checks	CY

Payment is full compensation for furnishing, producing, crushing, loading, hauling, placing, shaping, maintaining, and for removing Temporary Stone Ditch Checks and restoring site to final condition upon removal.

The quantity of sediment removed shall be multiplied by a factor of ten and paid for as Common Excavation.

41. Portable Changeable Message Sign, Item SPV.0045.01.

A Description

(1) This special provision describes furnishing, maintaining installing, and operating 2 portable changeable message signs, and operating manuals as hereinafter provided.

A.1 General

(1) During the life of this contract, provide 24 hour-a-day availability of equipment and forces to promptly restore or revise the Portable Changeable Message Signs. Provide the engineer with the name of the local individual, and one alternative contact, responsible for the maintenance and operation of the message signs.

(2) Upon verbal notification of a required sign message modification, complete the message revision within 5 minutes, except during non-working hours complete the message revision within 15 minutes. Upon verbal notification of a required sign modification involving moving, replacing or adding a message sign, complete the sign modification within 1 hour.

(3) The department reserves the right to coordinate all message sign revisions with the contractor based on actual traffic conditions. During non-working hours, respond to message sign requests as deemed necessary by the State Patrol.

(4) Program a master list of predetermined messages, provided by the department, into the message sign software. A unique identification number shall be assigned to each pre-determined message. The numbering system for the pre-approved messages shall be consistent on all the portable changeable message signs, base stations and personal laptop computer. Submit any special messages not on the master list, for approval to Jeff Gustafson, the Changeable Message Sign Coordinator at District 1, (608) 516-6400 prior to displaying the message on any message sign.

(5) Prior to delivery of the message signs to the project site, coordinate with Jeff Gustafson, the Changeable Message Sign Coordinator at District 1, (608) 516-6400 to allow at least ten working days for the inspection and approval of the Portable Changeable Message Signs.

(6) Supply portable changeable message signs that utilize a consistent computer software technology to operate all the message signs.

(7) Maintain and make all repairs on the message signs delivered to the project. Ensure that the message signs remain operational throughout the duration of the project. Wash the face of the message sign a minimum of once per month or as directed by the engineer.

(8) Provide the department an operating manual and instructions for the portable changeable message signs and base stations.

A.2 Pre-Approved Manufacturers

(1) To become pre-approved as a qualified vendor of Portable Changeable Message Signs, the vendor must initially submit the unit specifications to the department. If the department approves the specifications, the vendor may arrange a message sign demonstration with the department at which the operation and features of the unit shall be demonstrated. All demonstrations shall be coordinated with Jeff Gustafson, the Changeable Message Sign Coordinator at District 1, (608) 516-6400.

(2) The department has previously approved the following manufacturers:

a. ADDCO Incorporated
b. American Electronic Sign Company
c. American Signal Company
d. Display Solutions Incorporated
e. Precision Solar
f. Work Area Protection
g. Solar Tech

B Materials

(1) Furnish equipment that one person can easily transport and operate without assistance.

(2) Provide a complete Portable Changeable Message Sign and trailer that is painted highway safety orange, except the sign case, which shall be painted black. Each message sign shall have a unique identification number displayed on both sides of the trailer with lettering that has a minimum height of 6 inches. The message sign identification numbers shall be positioned on the trailer in such a manner to be visible to shoulder traffic. The identification numbers shall have a reflective coating visible during nighttime operations.

B.1 Sign Case

(1) The sign shall be capable of displaying a minimum of three lines of message text per message frame. Each line shall consist of a minimum of eight characters, equally spaced a minimum of 3 inches and a maximum of 4 1/2 inches apart. Characters shall be a minimum of 17 inches high and a minimum of 11 inches wide and be legible from a minimum of 850 feet during both day and night conditions. The maximum sign width shall be 11 feet 6 inches.

(2) The sign display shall consist of either a continuous matrix of pixels or individual character modules consisting of smaller matrices of pixels. Each matrix forming a character shall consist of a minimum 35 pixels in a 5 horizontal pixel by 7 vertical pixel arrangement. Each pixel shall consist of a high-intensity LED cluster. The LED lamps shall run at a minimum voltage to provide extended lamp life. Each pixel shall be either square in shape with a minimum of 2-inch sides or round in shape with a minimum 2-inch diameter. The driver board shall provide means for dimming the display. The entire message sign shall complete a message change within 100 milliseconds.

(3) The circuit boards used in the sign case shall be constructed of components readily available from at least two other sources. A schematic of the circuit boards shall be provided to the engineer.

(4) The sign housing shall be weatherproof and shall be constructed of aluminum. The front face shall be covered with either a one-piece, clear, non-glare, lexan panel, or individual one-piece, clear, non-glare, lexan panels.

B.2 Raise and Lower Mechanism

(1) The message sign shall have a vertical mast assembly constructed of structural steel tubing. The message sign shall include a built-in electric powered hydraulic pump capable of fully raising the sign within one minute. Each message sign shall also be equipped with a readily accessible manual lifting device. The message sign shall be capable of rising and locking at various heights. The bottom of the message sign shall be able to rise to a minimum height of 7 feet 0 inches above the ground.

(2) A means shall be provided to prevent tampering with the message sign when the sign is raised to any locked height. The message sign shall be capable of rotating 360 degrees atop the vertical mast assembly when raised to any locked height. The mast assembly shall have a mechanism for locking the message sign in place when it is extended. When extended, the message sign shall be capable of being locked at any display angle. A means shall be provided to prevent tampering with the display angle once the message sign angle is locked.

B.3 Controller

(1) Sign operations shall be at the direction and control of a programmable microprocessor (controller). The controller shall be furnished with a full size 101 key keyboard. The controller keyboard shall contain standard alphanumeric keys. The keyboard shall be capable of being used for operation of the controller in creating, storing and displaying additional sign messages. The controller shall be capable of storing a minimum of 200 messages (frames). The sign shall be capable of displaying from one to six messages in sequence. A minimum of 150 messages shall be preprogrammed and installed by the manufacturer. The controller shall also have the capacity for storage, recall and display of a minimum of 50 operator created messages. The controller shall be able to recall from memory, preview, and display message sequences at least six frames long. The controller shall be capable of storing a minimum of 25 message sequences that can be

created by the operator using any combination of preprogrammed messages and user created messages.

(2) The controller shall allow the operator to vary the message flash rate and sequence rate in 1/4-second intervals or less with the flash rate extending from zero seconds to at least four seconds. The controller shall also allow the operator to generate a moving or flashing arrow symbol that shall be capable of being displayed on any line of a message while text is displayed on other lines of the message. The controller shall also allow the operator to generate a larger moving or flashing arrow symbol that shall be capable of being displayed on the entire sign face, using all three lines. Either of these message frames containing arrow symbols shall be capable of being included in a sequence. The controller shall allow the operator to flash (blink) selected lines of messages and include these messages within a message sequence.

(3) The controller shall be equipped with a display screen for previewing the actual sign message prior to displaying the message on the sign. The controller shall be removable for ease of replacement, service, or programming.

(4) Each controller shall be programmed with a password system that will deter unauthorized programming of the controller. The password system shall include at least two levels of security such that operators at one level may only change message sequences displayed using preprogrammed sequences and operators at a higher level may create and store messages or message sequences. Operators at the higher level shall also be capable of displaying message sequences.

(5) A back up battery shall supply power to the controller when the message sign is not in operation.

(6) The circuit boards used in the controller shall be constructed of components readily available from at least three other sources. Provide the engineer with a schematic of the circuit boards.

(7) Ambient light controlled continuous dimming, with a minimum range of one hundred percent to forty percent shall be provided for the sign display. A means for manually controlled dimming shall also be provided.

(8) The control panel shall have switches for raising and lowering the sign. Provide a night light for the control panel and controller screen and install it in the controller console cabinet.

(9) The Portable Changeable Message Sign shall be fully equipped to receive commands to change standard messages and to allow monitoring of sign operations through a cellular telephone connection at the sign unit, without rewiring the cabinet connections. Provide a modem that operates at a minimum speed of 33.6K BAUD. The controller shall be capable of receiving commands via cellular telephone from a personal computer based remote station. The controller shall be furnished with a standard RS-232 interface such

that a laptop personal computer may be connected with the controller to exchange data. The controller shall also be equipped to connect to a standard telephone landline for remote control operation.

(10) The command protocol with which the controller communicates externally shall be of a standard format and be capable of being reconfigured. The command protocol with which the controller communicates via an RS-232 interface shall be a standard format and be capable of being reconfigured.

(11) A cellular phone unit shall be provided and installed in the message sign by the manufacturer.

(12) Provide and maintain a dedicated telephone line to the field office for the portable changeable message signs. Provide surge protection for all of the electronic components and telephone lines.

B.4 Power Source

(1) The solar Portable Changeable Message Sign shall run on a battery system using a solar charging system. The solar-powered battery charging system shall consist of an array of high-efficiency, single-crystal silicon cells mounted on top of the sign panel and a voltage regulator to prevent overcharging of the battery system. The system shall use deep-cycle batteries and shall include a voltage meter, ammeter and an hour meter. The hour meter will be capable of indicating the cumulative time that the message sign has been operational and displaying messages.

(2) The solar cells shall be capable of charging and maintaining the batteries at operational levels under all weather conditions experienced in Wisconsin. The solar array panel shall be capable of rotating 360 degrees atop the sign case and shall be capable of being locked in any position. The solar array panel shall either be tilted at an angle of 45 degrees relative to the horizon or shall be capable of tilting from 0 degrees to a minimum of 45 degrees and shall be capable of being locked in any position. A switch shall be provided to disconnect the solar power supply for safety during maintenance.

(3) The batteries shall be housed in a waterproof, heavy-duty housing which is equipped with necessary hardware to be locked using a padlock or build in lock. The batteries shall be of a standard size and type and be available from at least three different manufacturers. The housing that contains the batteries shall be capable of accommodating batteries from at least three different manufacturers. The batteries shall provide adequate back up power for the Changeable Message Sign to operate at full operation for 20 days having ambient air temperatures of 20 degrees Fahrenheit without any sun exposure to the solar array. Certification of the message sign's ability to operate for a period of 20 days without exposure to sunlight, as stated above, shall be provided by an independent laboratory. A switch shall be supplied to disconnect the battery supply for safety during maintenance.

(4) The sign shall also be equipped to receive and use external 110 volt alternating current as an alternate source of power.

(5) The sign shall also be equipped with a charging device which operates on 110 volt alternating current and that is capable of charging the deep-cycle battery system within 24 hours. The charging device shall automatically shut off when battery system is fully charged to prevent overcharging.

(6) The entire unit shall be equipped with an isolated ground circuit. The ground wires shall be connected to an isolated terminal block. The frame of the trailer shall not be a part of the ground system, except possibly for the alternating current charging and operating systems.

(7) All external wiring shall be single length with no splices and shall be protected from weather and obstructions encountered during transport.

(8) All break lines shall be protected from obstructions encountered during transport.

B.5 Trailer

(1) The highway trailer shall have a maximum width of 8 feet 6 inches and shall be constructed of heavy-gauge, rectangular structural steel tubing, equipped with either screw-type or hydraulic leveling jacks, trailer tongue jack with wheel, fenders, surge brakes, trailer hitch coupling with safety chains and a rear bumper. The trailer shall have a straight axle and two 15-inch wheels and tires with a combined rated load capacity greater than the weight of the entire sign unit and trailer.

(2) The trailer shall be equipped with standard highway brake lights, turn signals, and hazard lights and shall be wired into a round, six-prong connector. All wires shall be single lengths with no splices. Separate rustproof metal cabinets shall enclose the battery system and the controller console. The cabinets shall be equipped with the necessary hardware to be locked using a padlock or built in lock. Exterior metal surfaces shall be painted federal orange. The doors and lids of the cabinets shall be capable of being locked in the open position to prevent accidental closure.

(3) The trailer shall include a 6,000 pound capacity surge brake actuator.

(4) The trailer hitch coupling shall be Class III with a minimum capacity of 5,000 pounds and shall provide for hookup to a 2-inch ball type hitch. The coupling shall be capable of being tightened to the ball type hitch by hand turning a wheel. Heavy-duty safety chains with safety type hooks shall be provided and be attached to the trailer for use with the coupling and hitch assembly.

(5) The trailer shall be equipped with a means of preventing theft of the trailer.

(6) The trailer shall be equipped with heavy-duty, walk-on type fenders. A walk-on deck, a minimum of 18 inches in width, shall be provided on the trailer along both sides of the sign case. The decks shall be installed so that they are in front of and adjacent to both sides of the sign case when the sign case is locked in the transport mode. The walk-on decks shall be equal in length to the trailer. Non-slip treads shall be provided on these decks and on all trailer locations where service or maintenance standing or climbing will be required.

(7) The trailer shall contain at least four leveling jacks, as previously described, which will level the trailer on a 6:1 slope and support 5000 pounds each.

(8) The trailer shall have storage space for the leveling jacks when the jacks are not in use. When the leveling jacks are stored within the trailer, the jacks shall not protrude beneath the frame of the trailer. The trailer and sign shall be capable of withstanding wind gusts of up to 80 miles per hour when in operation with the sign raised to maximum height and the leveling jacks extended. The trailer shall also be equipped with a tongue jack that has a wheel. The tongue jack shall have a capacity greater than the tongue weight of the trailer.

(9) The trailer shall be capable of mounting or descending 6-inch curb heights without the frame striking the curb.

(10) The trailer shall be legal for use on Wisconsin roads in accordance to State of Wisconsin statutes.

C Construction

(1) Initially place the message sign in accordance to the plans and as approved by the engineer. Provide the engineer with a written list of initial message sign locations.

(2) Install the message signs a minimum 30 feet and a maximum 50 feet the edge line of the existing travel lane. Install the message signs perpendicular to the travel lane and level the message sign. Install the message signs to provide a 900-foot line of sight to approaching vehicles as measured from the centerline of the roadway. Ensure that the installation of message signs does not impede emergency vehicle access along any existing shoulder within the project vicinity.

(3) Have a representative familiar with the operation and repair of the message signs available at the project site on the day the signs are to become operational. The representative shall remain available until all message signs are operating satisfactorily. Provide training to the engineer, as required, on operating, adjusting, and controlling the portable changeable message signs, base stations and personal laptop computer.

D Measurement

(1) The department will measure Portable Changeable Message Signs by the unit in use as directed by the engineer per day, acceptably completed.

(2) Any day in which the changeable message boards are not working properly for more than two hours will result in one day being deducted from the quantity measured for payment, plus an additional $500 that the contractor will be liable to the department. Improper operation of a Portable Changeable Message Sign shall include displaying an incorrect message or a message sign operating at an incorrect location. More than a single day deduction in payment can be assessed if multiple operational errors occur on the project involving different Portable Changeable Message Signs on the same calendar day.

E Payment

(1) The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0045.01	Portable Changeable Message Sign	Day

(2) Payment is full compensation for furnishing, maintaining and installing the complete unit; and for furnishing all labor, tools, equipment, services, and incidentals necessary to complete the contract work.

42. Landmark Reference Monuments Special, Item SPV.0060.01.

A Description

This special provision describes preserving the location and constructing new reference monuments for existing Public Land Survey System (PLSS) section corner monuments within the proposed construction limits.

B Materials

The department can furnish aluminum monument caps if necessary. Otherwise, all materials for the monumentation and witness ties will be the responsibility of the contractor to provide. Any monuments that satisfy Wisconsin Administrative Code Chapter AE-7 will be acceptable.

C Construction

Complete the work in accordance to the pertinent requirements of standard spec 621.3 and as follows:

Obtain existing tie sheets from the Rock County Surveyor. Locate and verify existing PLSS monuments and ties. Furnish, and install if necessary, temporary and/or permanent ties. Provide a temporary tie sheet to the department and the Rock County Surveyor, for use by the public during the construction phase of the project and before the final monumentation is complete.

Perpetuate and/or reset all PLSS monuments and witnesses under the direction of a State of Wisconsin Licensed Professional Land Surveyor. Prepare the temporary and final PLSS monument records in accordance to the Wisconsin Administrative Code Chapter AE-7. Prepare and File new monument records with the Rock County Surveyor in accordance to AE-7 and provide a copy of the same to the WisDOT SW Region-Madison

Survey Coordinator. This work shall be overseen and completed by a State of Wisconsin Licensed Professional Land Surveyor.

The approximate location of the section corners that will likely be disturbed due to the proposed construction:

Landmark Reference Monument

Station	Offset	Township	Range	Section Corner
585+75	11' RT ($^{+}_{-}$)	4N	13E	S 2
38+80.04 CLN	3' LT ($^{+}_{-}$)	4N	13E	NE 2
744+25	140' LT ($^{+}_{-}$)	5N	13E	25E

Notify the Rock County Surveyor Don Barnes or Jefferson County Surveyor Jim Morrow and John Moran WisDOT/SW Region-Madison Survey Coordinator five working days prior to construction operations that may disturb existing monuments, with pertinent questions or for department provided monument caps. John Moran can be reached at (608) 246-7918 office or (608)516-6538 cell, or email John.Moran@dot.wi.gov . Don Barnes can be reached at (608)757-5608. Jim Morrow can be reached at (920) 674-7368.

D Measurement

The department will measure Landmark Reference Monuments Special by each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.01	Landmark Reference Monuments Special	Each

Payment is full compensation for furnishing a Professional Land Surveyor; obtaining existing PLSS monument record tie sheet(s); preparing, providing and filing temporary/final PLSS monument record tie sheet(s) from a Professional Land Surveyor; all survey work related to the perpetuation process; the furnishing and placing of all PLSS survey monuments; the furnishing and placement of any necessary witness ties; the removal of the existing monument(s) if necessary; and for excavating for the placement of the new monument(s) if necessary.

43. Reinforced Concrete Endwalls and Grates, 18-Inch Special, Item SPV.0060.02; 29x45-Inch Special, Item SPV.0060.03; 30-Inch Special, Item SPV.0060.14.

A Description

Construct Reinforced Concrete Endwalls and Grates in accordance to standard spec 504, 505, 506, and 522, as shown on the plans, and as hereinafter provided.

B Materials
Furnish steel conforming to the requirements of standard spec 506.2.2.1. Furnish steel pipe conforming to the requirements of standard spec 506.2.3.6.

Furnish pipe grates galvanized in accordance to ASTM A123.

Furnish angles and brackets galvanized in accordance to ASTM A123.

Furnish required hardware galvanized in accordance to ASTM A123.

C Construction
Repair pipes, rods, angles, and brackets on which the galvanized coating has been damaged in accordance to the requirements of AASHTO M36M.

D Measurement
The department will measure Reinforced Concrete Endwalls and Grates (Inch) Special as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.02	Reinforced Concrete Endwalls and Grates, 18-Inch Special	Each
SPV.0060.03	Reinforced Concrete Endwalls and Grates, 29x45-Inch Special	Each
SPV.0060.14	Reinforced Concrete Endwalls and Grates, 30-Inch Special	Each

Payment is full compensation for furnishing and constructing the endwalls including the grates; for furnishing all excavating, including forming bed; and for furnishing all backfill.

44. Sealing Pipes Temporary, Item SPV.0060.04.

A Description
This special provision describes furnishing and installing temporary pipes seals at the locations shown on the plans, and as hereinafter provided.

B Materials
The locations of required temporary pipe seals are shown on the contract plans. Provide a design 30 days prior to construction for approval by the engineer.

C Construction
This work shall consist of temporarily sealing culvert pipes in way that prevents soils, rock and other foreign materials from entering the culvert pipes during various stages of construction.

D Measurement
The department will measure Sealing Pipes Temporary as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.04	Sealing Pipes Temporary	Each

Payment is full compensation for furnishing and installing of all materials; and for removing and disposing of the temporary pipe seal.

45. Security Gate Chain Link (24'), Special, Item SPV.0060.05.

A Description
This special provision describes furnishing and installing a Security Gate Chain Link (24'), Special at 623+80 LT. The chain link fence and gate shall be supplied and constructed as shown in the standard detail Fence Chain Link and in accordance to standard spec 616. Three rows of barbed wire shall be supported by a barb wire support arm on top of each post.

B Materials
All materials shall be in accordance to standard spec 616.

Barbed wire supporting arms metal materials shall be in accordance to standard spec 616. They shall be fastened to the top of each fence post, and shall be at an angle of approximately 45 degrees or vertical, as required, and shall be fitted with clips or other means for attaching three strands of barbed wire. With 45 degree arms the top wire shall be approximately twelve inches horizontally from the fence line and the other wires spaced uniformly between the top of the fence fabric and the outside strand. Barbed wire arm shall be of sufficient strength to withstand a weight of 250 pounds (113.3 kg) applied at the outer strand of barbed wire.

The contractor shall submit shop drawings of the fence gate and barbed wire support brackets to the engineer at least 4 weeks prior to installation.

C Construction
Construction shall be in accordance to standard spec 616 and the Standard Detail Drawing, Chain Link Fence, except as the plans show, and as hereinafter provided.

D Measurement
The department will measure Security Gate Chain Link (24') Special as each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.05	Security Gate Chain Link (24') Special	Each

Payment is full compensation for clearing and grubbing the fence line; for excavating; for providing and setting posts including placing concrete; for erecting and tensioning all fencing components; providing and installing barbed wire arms, and three strands of barbed wire, submitting shop drawings; and for removing and disposing of all debris, excess excavation, and surplus material.

Payment includes erecting temporary security gate to maintain existing gate until new fence gate has been installed.

Payment also includes providing longer posts driven in unstable soils at no additional cost to the department.

46. Inlet Ditch Checks, Special, Item SPV.0060.06.

A Description

This work consists of furnishing and installing inlet ditch checks, special within the roadside ditches of the bypass as shown on the plans and as described herein.

B Materials

This work shall be in accordance to standard spec 205.

C Construction

This work shall be in accordance to standard spec 205.

D Measurement

The department will measure Inlet Ditch Checks, Special by each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.06	Inlet Ditch Checks, Special	Each

Payment is full compensation for furnishing and installing the Inlet Ditch Checks, Special.

Erosion mat will be paid for separately under the contract unit bid price for Erosion Mat.

47. Culvert Ditch Checks Special, Item SPV.0060.07.

A Description
This work consists of furnishing and installing culvert ditch checks, special within the roadside ditches of the highway as shown on the plans and as described herein.

B Materials
This work shall be in accordance to standard spec 205.

C Construction
This work shall be in accordance to standard spec 205.

D Measurement
The department will measure Culvert Ditch Checks Special by each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.07	Culvert Ditch Checks Special	Each

Payment is full compensation for furnishing and installing the Culvert Ditch Checks Special.

Erosion mat will be paid for separately under the contract unit bid price for Erosion Mat.

48. Manhole 6-FT Diameter, Special, Item SPV.0060.08.

This item of work shall be performed in accordance to standard spec 611 and shall conform to the details in the plans.

49. Terminal High-Tension Cable Guard TL-3, Item SPV.0060.09; High-Tension Cable Guard TL-3 Socketed, Item SPV.0090.01.

A Description
This special provision describes providing socketed high-tension TL-3 cable guard meeting the National Cooperative Highway Research Program (NCHRP) Report 350, Test Level 3.

B Materials
Materials are to be acquired from the manufacturer below:

Safence, Inc.
Gregory Industries
4100 13th Street SW
Canton Ohio 44710
Contact: Tom Close
Phone: (330) 477-4800, Ext: 165
Email: tclose@gregorycorp.com
Web: http://www.gregorycorp.com/

Furnish grade A, concrete conforming to standard spec 501.2 as modified in standard spec 716 for concrete used in concrete socketed line post footing for concrete anchors in terminals. Provide QMP for class II ancillary concrete as specified in standard spec 716.

Furnish steel reinforcement conforming to standard spec 505.

Furnish cable and all cable connection components with a minimum breaking strength of 39,000 lbs per ASTM A741-98.

Furnish zinc-coated hardware as specified in AASHTO M232.

B.2 Design Requirements
Thirty days before installation provide the engineer with two sets of manufacturer prepared design calculations, approval letters, documentation, notes, plan details, and construction specifications. Provide required information in a PDF format or other in electronic format that the department can review information.

Obtain prior approval from the Bureau of Project Development, Erik Emerson at (608) 266-2842, for all hardware substitutions before delivering the hardware on the project.

Provide a system that has been formally accepted by Federal Highway Administration as meeting the crash test requirements in NCHRP Report 350 or MASH, for a Test Level 3 system.

Provide a system to have a maximum deflection of 8 feet. Provide design documentation on how post spacing, radius of curve, direction of curve, and anchor spacing influences barrier deflection.

Provided design details for concrete socketed line post footing with a maximum line post spacing of 15 feet. Minimum depth of for concrete socketed line post is 48 inches for non-rock installations.

Provide concrete anchors with minimum of 60 inches for non-rock installations.

Provide design details for non-rock installations of socketed line post and concrete anchors.

Ensure that concrete line post design has 6 inches of clear cover (distance from outside of concrete in the line post footing to steel sleeve) or manufacture provides documentation that the concrete line post footing will not become cracked or large pieces of concrete can not fly into the air during a TL-3 truck impact.

Provide engineering analysis sealed by a Wisconsin licensed professional engineer that the line post footings and concrete anchorages are designed for the soils conditions presented in the contract. Analysis includes but is not limited to: design loads used for terminal and anchor posts, foundation design methodology used, factors of safety values, soil type, soil conditions, temperature ranges.

Soil boring information is located on the plan sheets.

Provide splice and connection details that have passed NCHRP 350 or MASH TL-3 crash testing requirements.

C Construction

A representative of the manufacture is to be on site at all times during the installation of the terminals and the high-tension cable guard. Manufacture's representative will provide engineer signed documentation that the contractor has installed the socketed high-tension TL-3 cable guard according to manufacturer's recommendations.

Construct concrete as specified in standard spec 501.

Construct steel reinforcement as specified in standard spec 505.

Construct terminal units at each end of a run of cable guard as shown in the plans. The contractor may determine the location of anchors subject to the engineer's approval.

Set steel posts in socketed concrete foundations according to the manufacturer's recommendations. Line post must be easily removed from sleeve, plumb, and hold cables at proper elevations.

Tension the cable according to the manufacturer's recommendations at the time of installation, and then check and adjust approximately 3 weeks after installation. If system is not maintaining proper tension, adjust tension and return 3 weeks later. Provide engineer documentation of date, time, location, tension value, and who checked the tension for each barrier run.

Use only one-half the available adjustment in each turnbuckle or tension adjustment connection to achieve manufacture's recommend tension values.

Field swage connections per manufacturer's recommendations and details.

The engineer will allow the contractor to open the roadway to traffic or remove traffic control devices if concrete attains manufacture's compressive strength. Without compressive strength information, the engineer may allow the contractor to remove traffic control devices 14 equivalent curing days. Equivalent curing days are defined in standard spec 415.3

Install reflective delineators at even post spacing intervals close to 100 feet.

D Measurement
The department will measure Terminal High-Tension Cable Guard TL-3 as each individual unit, acceptably completed.

The department will measure High-Tension Cable Guard TL-3 Socketed by the linear foot, acceptably completed, measured as the length from end of terminal to end of terminal and rounded to the nearest linear foot.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.09	Terminal High-Tension Cable Guard TL-3	Each
SPV.0090.01	High-Tension Cable Guard TL-3 Socketed	LF

Payment is full compensation for furnishing all materials, including posts, paint, concrete, steel reinforcement, sockets, cables, anchors, tension assemblies, fittings, and incidentals; for initial tensioning and subsequent adjustment of tension; for furnishing all excavating and backfilling; for removal of temporary anchors; for restoring of disturbed slope; delineation; engineering; and for properly disposing of excess material.

50. Removing Flexible Tubular Marker and Base, Item SPV.0060.10.

A Description
This work consists of removing existing flexible tubular markers and bases as shown on the plans and as described herein.

B Materials
This work shall be in accordance to standard spec 643.

C Construction
This work shall be in accordance to standard spec 643.

D Measurement
The department will measure Removing Flexible Tubular Marker and Base by each individual unit complete consisting of the flexible tubular marker and base removed in accordance to the contract and standard spec 643, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.10	Removing Flexible Tubular Marker and Base	Each

Payment is full compensation for removing a flexible tubular marker and base measured as one unit.

51. Temporary Median Inlet, Type 1G-MS, Item SPV.0060.11.

A Description

This special provision describes the construction and removal of a temporary median inlet, type 1G-MS.

B Materials

Materials shall be in accordance to standard spec 611.

C Construction

Construction shall be in accordance to standard spec 611 and Standard Detail Drawing: Inlets Median 1 and 2 Grate, except as the plans show, and as hereinafter provided.

D Measurement

The department will measure Temporary Median Inlet, Type 1G-MS as each individual inlet, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.11	Temporary Median Inlet, Type 1G-MS	Each

Payment is full compensation for furnishing and installing all materials; for furnishing, installing, and removing of all frames, grates, and lids; for furnishing all excavating, hauling, and disposal of materials; for furnishing granular backfill; for backfilling; and for removing; for maintaining, cleaning out, and restoring the work site.

52. Manholes 7-FT Diameter Special, Item SPV.0060.12; Manholes 8-FT Diameter Special, Item SPV.0060.13.

A Description

This special provision describes furnishing and installing a round Manhole with an inside clear width as indicated with a square chimney top to accommodate an Inlet Cover Type MS.

B Materials
Materials shall be in accordance to standard spec 611.

C Construction
Construction shall be in accordance to standard spec 611 and Standard Detail Drawing: Manholes 7-FT, and 8-FT Diameter Special, except as the plans show, and as hereinafter provided. The contractor shall construct the specified diameter manhole with a flat slab top. The flat slab top shall have a rectangular hole, centered, to accommodate a chimney structure equivalent to a Median Inlet 1 Grate that is 1-FT high from top of slab to top of grate. The Manholes 8-FT Diameter Special will have a temporary connection in Stage 1. In stage 2, when the temporary connection is removed, the contractor shall repair any hole/voids created from this temporary connection in accordance to standard spec 611.

D Measurement
The department will measure Manholes 7-FT Diameter Special and Manholes 8-FT Diameter Special as each individual manhole, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.12	Manholes 7-FT Diameter Special	Each
SPV.0060.13	Manholes 8-FT Diameter Special	Each

Payment is full compensation for furnishing and installing the Manhole (size) materials and appurtenances in accordance to the Drawings and Details including all masonry, conduit and sewer connections, steps and other fittings; for furnishing all excavating, backfilling, repairing/filling holes and voids from temporary conditions, disposing of surplus material, for cleaning out and restoring the work site; except that the department will pay for covers, including frames, grates and lids separately.

53. Construction Staking, High-Tension Cable Guard, Item SPV.0090.02.

A Description
This section describes the contractor-performed construction staking required for high-tension cable guard, including staking of locations for cable guard anchors and individual cable guard posts.

B (Vacant)

C (Vacant)

D Measurement:
The department will measure Construction Staking High-Tension Cable Guard by the linear foot, acceptably completed, measured along the roadway reference line.

E Payment:
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.02	Construction Staking High-Tension Cable Guard	LF

Payment is full compensation for locating and staking all elements needed for the construction of the high-tension cable guard.

54. Security Chain Link Fence, 6-Foot Special, SPV.0090.03.

A Description
This special provision describes furnishing and installing Security Chain Link Fence, 6-foot. The chain link fence shall be supplied and constructed as shown in the standard detail Fence Chain Link in accordance to standard spec 616. Three rows of barbed wire shall be supported by a barb wire support arm on top of each post. This item will also include connecting this chain link fence into the existing fence at 622+35 and at 626+86 as shown in the plans.

B Materials
All materials shall be in accordance to standard spec 616.

Barbed wire supporting arms metal materials shall be in accordance to standard spec 616. They shall be fastened to the top of each fence post, and shall be at an angle of approximately 45 degrees or vertical, as required, and shall be fitted with clips or other means for attaching three strands of barbed wire. With 45 degree arms the top wire shall be approximately 12 inches horizontally from the fence line and the other wires spaced uniformly between the top of the fence fabric and the outside strand. Barbed wire arm shall be of sufficient strength to withstand a weight of 250 pounds (113.3 kg) applied at the outer strand of barbed wire.

The contractor shall submit shop drawings of the fence and barbed wire support brackets to the engineer at least 4 weeks prior to installation.

C Construction
Construction shall be in accordance to standard spec 616 and the Standard Details, Fence Chain Link, except as the plans show, and as hereinafter provided. This fence will be tied into the existing security chain link fence at Station 622+35 LT and at 626+86 LT as shown in the plans as to provide no gaps of greater than 2-Inches.

D. Measurement
The department will measure Security Chain Link Fence, 6-Foot Special by the linear foot, acceptably completed, measured from center to center of end posts, along the top tension wire. The department will deduct for gates and other openings.

E. Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.03	Security Chain Link Fence, 6-Foot Special	LF

Payment is full compensation for clearing and grubbing the fence line; for excavating; for providing and setting posts including placing concrete; for erecting and tensioning all fencing components; providing and installing barbed wire arms, corner barbed wire arms and three strands of barbed wire, submitting shop drawings; making connections to existing fencing; for installing grounds; and for removing and disposing of all debris, excess excavation, and surplus material.

Payment includes erecting temporary security fence to maintain existing barrier until new fence has been installed.

Payment also includes providing longer posts driven in unstable soils at no additional cost to the department.

55. Concrete Curb and Gutter 32-Inch Special, SPV.0090.04.

This item of work shall be performed in accordance to standard spec 601 and shall conform to the details in the plans.

If Concrete Curb and Gutter 32-Inch Special, SPV.0090.04 is adjacent to concrete pavement, concrete shoulder, or concrete pavement approach slab #4 tie bars shall be placed at 2' center on center. These tie bars shall be incidental to this item.

56. Temporary Stream Diversion, Structure C-28-32, SPV.0105.01.

A Description

This special provision describes delivering, installing, and maintaining a temporary stream diversion to divert flow around construction of the extension of Structure C-28-32 while maintaining traffic on existing STH 26 in accordance to standard spec 205, 501, and 628, and as herein provided.

B Materials

Polyethylene Sheeting. Polyethylene sheeting shall be 6 mils thick and conform to the requirements of the specification for polyethylene sheeting for Construction, Industrial and Agricultural Applications, ASTM D4397.

Coarse Aggregate, Size No. 2. The aggregate will be clean concrete aggregate graded in accordance to the requirements as specified under standard spec 501.2.5.4. The soundness and wear requirements are deleted from this material.

Silt Fence. Silt fence shall be in accordance to standard spec 628.2.6.

Sand Bags. Sand bags, if required, shall be canvas, burlap, nylon, or other approved material. The bags shall contain a minimum of one half cubic foot of sand, be of one size and shape, and be securely closed.

Sand. The sand shall conform to the requirements of standard spec 501.2.5.3. The maximum size of particle shall pass a 4.75 mm sieve.

C Construction

This proposed temporary diversion location and configuration shall be submitted to the engineer at least 2 weeks prior to construction. Install silt fence prior to excavation, as shown on the plans or as directed by the engineer and maintain during construction to minimize erosion and to prevent siltation of the stream.

Properly secure the polyethylene sheeting to prevent it from being moved or dislocated by wind or water. The sheeting shall fully bear on the surrounding soil. Remove all stones, roots, sticks, or other foreign material which would interfere with or penetrate the sheeting prior to placing the sheeting. Overlap adjacent sheets 3 feet, in the direction of flow and the edges sealed with waterproof tape or other approved methods. Patch damaged areas of sheeting by covering with additional sheeting, overlapping a minimum of 3 feet and sealing the edges with waterproof tape or other approved methods. Maintain the polyethylene sheeting and make satisfactory repairs of damaged areas.

Remove the temporary stream diversion and all its components after structure construction. Restore flow to the stream.

D Measurement

The department will measure Temporary Stream Diversion (Structure) as a single lump sum unit of work for each structure, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.01	Temporary Stream Diversion Structure C-28-32	LS

Payment is full compensation for installing and removing all materials necessary to complete the work; and for restoring the alignment and flow to the natural stream.

Excavation and miscellaneous backfill (excluding Backfill Structure) for the Temporary Stream Diversion shall be paid for under the bid item Excavation for Structures.

57. Removing Temporary Crossover, XON1&XON2 Item SPV.0105.02; XON3&XON5, Item SPV.0105.03; XOJ1, Item SPV.0105.04; XOJ2, Item SPV.0105.05; XOJ3, Item SPV.0105.06.

A Description
This work consists of excavating, filling, grading, shaping, compacting, saw cutting, shouldering, and finishing as necessary to remove the crossover and grade and finish the shoulders and ditch, as shown on the plans, in accordance to the pertinent requirements of the standard specifications, and as hereinafter provided.

B (Vacant)

C Construction
Dispose of all surplus and unsuitable material in accordance to standard spec 205.3.12.

D Measurement
The department will measure Removing Temporary Crossover (Location) as a single complete lump sum unit of work.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.02	Removing Temporary Crossover, XON1&XON2	LS
SPV.0105.03	Removing Temporary Crossover, XON3&XON5	LS
SPV.0105.04	Removing Temporary Crossover, XOJ1	LS
SPV.0105.05	Removing Temporary Crossover, XOJ2	LS
SPV.0105.06	Removing Temporary Crossover, XOJ3	LS

Payment is full compensation for furnishing all excavation, grading, shaping, saw cutting, shouldering, and compacting; and for providing and placing all fill, base aggregate dense, topsoil, fertilizer, seed, mulch, and erosion mat.

58. Concrete Pavement Joint Layout, Item SPV.0105.07.

A Description
This special provision describes providing a concrete pavement or concrete base joint layout design for intersections and marking the location of all joints in the field.

B (Vacant)

C Construction
Plan and locate all points necessary to establish the horizontal position of the transverse and longitudinal joints in the concrete to prevent uncontrolled cracking. Submit a joint layout design to the engineer before paving each ramp or intersection. Mark the location

of all concrete joints in the field. Follow the plan details for joints in concrete making adjustments as required to fit field conditions.

D Measurement
The department will measure Concrete Pavement Joint Layout as a single lump sum unit of work for all joint layout designs and marking, acceptably completed under the contract.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.07	Concrete Pavement Joint Layout	LS

Payment is full compensation for providing the ramp and intersection joint layout designs and marking all joints in the field.

The department will adjust pay for crack repairs as specified in standard spec 415.5.3.

59. Temporary Median Inlet, Type 2G-MS, Item SPV.0105.08.

A Description
This work shall consist of constructing and removing a temporary median inlet, type 2G-MS and temporary section of 30-Inch CPRC in the median area at the location shown on the plans, as directed by the engineer and as follows. This item is intended to be installed during Stage 1 of construction.

B Construction
Construction shall conform to the pertinent requirements set forth in standard spec 520 and 611, and modified as follows. The contractor shall provide for a temporary inlet structure by removing a portion of the existing culvert/endwall, replacing it with a section of 30-Inch CPRC, and constructing/placing the temporary inlet around the new section of 30-Inch CPRC. Backfill shall then be placed in the excavated area and graded to drain to the inlet opening just created.

C Measurement
The department will measure Temporary Median Inlet, Type 2G-MS as a single lump sum unit of work.

D Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.08	Temporary Median Inlet, Type 2G-MS	LS

Payment is full compensation for furnishing and installing all materials; excavation; saw cutting; for hauling and disposal of materials; for furnishing granular backfill; for backfilling; and for removing; for maintaining.

60. Salvaging Tree, Item SPV.0105.09.

A Description

This special provision describes salvaging a 10-foot long entire cross section of the Burr Oak Tree at Station 677+72, 2' RT +- , treating all cut ends with an approved sealer and delivering it to the Jefferson County Parks Shop at 1555 S. Industrial Drive, Jefferson, WI 53549. Remainder of tree shall be left for adjacent property owner (Parcel 6; 1390-04-28) on their property as to not obstruct their internal driveway. Contact Lucille Gavers at (815) 236-7460 to coordinate location five days prior to removal.

B Materials

Wood Sealer. All cut ends shall be treated as specified by the manufacturer with UC coatings Anchorseal2, Timber Pro UV Log End Sealer, or equivalent sealer as approved by the Jefferson County Parks Department. The proposed sealer shall be submitted to Kevin Wiesmann with the Jefferson County Parks at least two weeks prior to performing this work for approval.

C Construction

Salvage a 10-foot long entire section of the trunk of the Burr Oak Tree at Station 677+72, 2' RT +- and seal all cut ends with an approved sealer. The location of the section of the tree shall be determined by Kevin Wiesmann with the Jefferson County Parks and Recreation. Contact Kevin Wiesmann at (920) 674-7540 at least two weeks prior to salvaging this portion of the tree trunk. Remainder of tree shall be left for adjacent property owner (Parcel 6; 1390-04-28) on their property as to not obstruct their internal driveway. Contact Lucille Gavers at (815) 236-7460 to coordinate location 5 days prior to removal.

D Measurement

The department will measure Salvaging Tree as a single lump sum unit of work, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.09	Salvaging Tree	LS

Payment is full compensation for furnishing and installing all materials; coordinating the section with Jefferson County Parks Department, sawing the 10-foot section out of the existing tree; sealing all cut ends with approved sealer, delivering the chosen section to the Jefferson County Parks Shop and for furnishing all labor, tools, equipment and incidentals necessary to complete the contract work. The remaining portion of the tree and stump removal, shall be paid for separately using the clearing and grubbing items.

61. Manhole 8-FT Diameter Temporary, Item SPV.0105.10.

A Description

This special provision describes the construction and removal of a temporary manhole with an inside clear diameter as indicated.

B Materials

Materials shall be in accordance to standard spec 611.

C Construction

Construction shall be in accordance to standard spec 611 and Standard Detail Drawing: Manholes 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, and 8-FT Diameter, except as the plans show, and as hereinafter provided. The contractor shall construct the temporary manhole in a manner such that the structure will tie into an existing drainage system. This will require partial removal of an existing 42-INCH CPRC and apron endwall. This tie-in work shall be in accordance to standard spec 520 and 607.

D Measurement

The department will measure Manhole 8-FT Diameter Temporary as a single lump sum unit of work, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.10	Manhole 8-FT Diameter Temporary	LS

Payment is full compensation for furnishing and installing the Manhole 8-FT diameter materials and appurtenances in accordance to the Drawings and Details including all masonry, culvert connections, steps, type M frame and lid, and other fittings; and for furnishing all excavating, backfilling, for removing, disposing of surplus material, and for cleaning out and restoring the work site.

62. Construction Staking HMA Parking Lot, Item SPV.0105.11.

A Description

This work consists of staking the horizontal and vertical position of the subgrade, select crushed material, and base aggregate dense for the multi-use path parking lot located at Station 16+50 ‘DS’ RT and connector to multi-use path from parking lot.

B (Vacant)

C Construction
Perform Construction Staking HMA Parking Lot in accordance to the pertinent provisions of standard spec 650.

D Measurement
The department will measure Construction Staking HMA Parking Lot as a single lump sum unit of work, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.11	Construction Staking HMA Parking Lot	LS

Payment is full compensation for Construction Staking HMA Parking Lot work necessary to locate and set all construction stakes; and for maintaining, relocating, and resetting construction stakes for the parking lot.

The department will not make final payment for this bid item until the contractor submits all survey notes and computations used to establish the required lines and grades to the engineer within 21 days of completing this work. The department will deduct from payments due the contractor for the additional costs specified in standard spec 105.6.

63. Geogrid Reinforcement, Item SPV.0180.01.

A Description
This special provision describes furnishing and installing geogrids for subgrade stabilization, base reinforcement, or pavement structure applications in accordance to the plans, standard spec 645 and as hereinafter provided.

B Materials
Provide geogrid that consists of either single or joined multiple layers of a uniform rectangular grid of bonded, formed, or fused polymer tensile strands crossing with a nominal right angle orientation. The polymer shall consist of polyester, polypropylene, polyamide, or polyetheylene. The grid shall maintain dimensional stability during handling, placing, and installation. The geogrid shall be insect, rodent, mildew, and rot resistant. Minimum geogrid width shall be 6.0 feet.

Provide geogrid that complies with the following physical properties:

Test	Method	Value[1]
Tensile Strength at 5% Strain, Both Principal Directions (lb/ft)	ASTM D 4595[2]	450 min.
Flexural Rigidity Both Principal Directions (mg-cm)	ASTM D 1388[3]	150,00 min.
Aperture Area (in^2)	Inside Measurement[4]	5.0 max.
Aperture Dimension (in)	Inside Measurement[4]	0.5 min.

[1]All numerical values represent minimum/maximum average roll values, i.e. the average minimum test results on any roll in a lot should meet or exceed the minimum specified value.

[2]The tensile strength (T) of a joined multi-layered geogrid shall be computed using the following equation:

$$T = n(f)\, t$$

where

n = the number of individual layers in the joined multi-layered geogrid,

t = the tensile strength of a single layer of geogrid as determined using testing method ASTM D4595, and

f = reduction factor based on the number of layers comprising the multi-layered system and determined by the equation $f=1.00 – [0.04(n-1)]$

[3]Values shall be determined by Option "A" (Cantilever Test) of testing method ASTM D1388 using test specimens that are 36 inches ±0.04 inch long. Test specimen widths for differing geogrids shall be variable and equal to 1 element plus 1/2 the aperture width on both sides of the element. An element is defined as the minimum number of parallel strands that form a distinguishable repeating pattern.

[4]Aperture Area and Aperture Dimension for joined multi-layered geogrids shall be determined based on measurement of a single layer of geogrid.

Protect the geogrid from ultraviolet radiation and from damage due to shipping and handling. Keep the geogrid dry until it is installed. The geogrid rolls shall be clearly marked to identify the material contained.

Deliver a sample of the geogrid material to the engineer at least 10 days prior to its incorporation into the work. At the same time, furnish a manufacturer's Certified Report of

Test or Analysis that verifies that the geogrid delivered for use on the work meets the above requirements. Samples of geogrid for test purposes will be obtained from the job site for each 10,000 square yards or portions thereof used on the contract.

C Construction

Prior to placement of the geogrid, bring the indicated placement surface to the required lines, grades, and dimensions as shown on the plans. Smooth and shape the surface to eliminate any rocks, clods, roots, or other items that may cause damage to the geogrid during placement or covering.

Place the geogrid on the prepared surface at the locations and to the limits as shown on the plans. After placement, pull the geogrid taut and secure it using pins, clips, staples, or other devices to prevent movement or displacement. Place parallel strips of geogrid with a minimum overlap of 6 inches. Lap butt joints between roll ends a minimum of 12 inches. Fasten all lapped sections together by using ties, straps, clips, or other devices to develop a secure joint that meets the approval of the engineer. No vehicles or construction equipment shall be permitted to operate directly on the geogrid.

Cover small rips, tears, or defects in the geogrid with an additional section of geogrid; secure the additional geogrid in place so that it overlaps the damaged area by at least 3 feet in all directions. Remove and replace geogrid sections with large rips, tears, defects, or other damage at the direction of the engineer. All costs to repair or replace damaged or defective geogrid shall be the responsibility of the contractor.

After placement, cover the geogrid to the indicated depth with the type of material required on the plans or in the special provisions. Placing, spreading, and compacting of this material shall comply with the applicable sections of the standard specifications or special provisions except that the initial lift of material placed on the geogrid must be at least 4 inches. Place, spread, and compact the required backfill material so that the geogrid is not displaced or damaged. The engineer may require changes in equipment and/or operations to prevent such damage or displacement.

D Measurement

The department will measure Geogrid Reinforcement by the square yard of surface area upon which the geogrid has been placed, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.01	Geogrid Reinforcement	SY

Payment is full compensation for furnishing, transporting, and installing the geogrid; and for furnishing and installing all devices and materials necessary to join or secure the geogrid in place.

ADDITIONAL SPECIAL PROVISION 4

Payment to all Subcontractors. Within 10 calendar days of receipt by a contractor of a progress payment for work performed, materials furnished, or materials stockpiled by a subcontractor, the contractor shall pay that subcontractor for all work satisfactorily performed and for all materials furnished or stockpiled.

The contractor agrees further to release retainage amounts to each subcontractor within 10 calendar days after the subcontractor's work is satisfactorily completed. In addition, whenever the Department reduces the contract retainage amount, within 10 calendar days of receipt by a contractor of a retainage payment, the contractor must reduce the total amount retained from subcontractors to no more than remains retained by the Department.

The contractor shall pay the subcontractor within the time frames described above unless the contractor complies with both of the following within 10 calendar days of receiving the Department's progress payment:

1) The contractor notifies the subcontractor in writing that the work is not satisfactorily completed.
2) The contractor requests approval from the Department to delay payment because the subcontractor has not satisfactorily completed the work.

The contractor's request for approval should include the written notification to the subcontractor and shall provide sufficient documentation of good cause to assist the engineer in making a timely decision. If the engineer does not grant approval, the contractor shall pay the subcontractor within 10 calendar days of the Department's decision.

All subcontracting agreements made by a contractor shall include the above provisions and shall be binding on all contractors and subcontractors.

The contractor certifies compliance with the requirements of this Additional Special Provision by signing the contract. This clause applies to both DBE and non-DBE subcontractors.

ADDITIONAL SPECIAL PROVISIONS 5

Fuel Cost Adjustment

A Description

Fuel Cost Adjustments will be applied to partial and final payments for work items categorized in Section B as a payment to the contractor or a credit to the department. ASP-5 shall not apply to any force account work.

B Categories of Work Items

The following items and Fuel Usage Factors shall be used to determine Fuel Cost Adjustments:

(1) Earthwork.		Unit	Gal. Fuel Per Unit
205.0100	Excavation Common	CY	0.23
205.0200	Excavation Rock	CY	0.39
205.0400	Excavation Marsh	CY	0.29
208.0100	Borrow	CY	0.23
208.1100	Select Borrow	CY	0.23
209.0100	Backfill Granular	CY	0.23
350.0102	Subbase	CY	0.28
350.0104	Subbase	Ton	0.14
350.0115	Subbase 6-Inch	SY	0.05
350.0120	Subbase 7-Inch	SY	0.05
350.0125	Subbase 8-Inch	SY	0.06
350.0130	Subbase 9-Inch	SY	0.07
350.0135	Subbase 10-Inch	SY	0.08
350.0140	Subbase 11-Inch	SY	0.09
350.0145	Subbase 12-Inch	SY	0.09

C Fuel Index

A Current Fuel Index (CFI) in dollars per gallon will be established by the Department of Transportation for each month. The CFI will be the price of No. 2 fuel oil, as reported in U.S. Oil Week, using the first issue dated that month. The CFI will be the average of prices quoted for Green Bay, Madison, Milwaukee and Minneapolis.

The base Fuel Index (BFI) for this contract is $2.90 per gallon.

D Computing the Fuel Cost Adjustment

The engineer will compute the ratio CFI/BFI each month. If the ratio falls between 0.85 and 1.15, inclusive, no fuel adjustment will be made for that month. If the ratio is less than 0.85 a credit to the department will be computed. If the ratio is greater than 1.15 additional payment to the contractor will be computed. Credit or additional payment will be computed as follows:

(1) The engineer will estimate the quantity of work done in that month under each of the contract items categorized in Section B.

(2) The engineer will compute the gallons of fuel used in that month for each of the contract items categorized in Section B by applying the unit fuel usage factors shown in Section B.

(3) The engineer will summarize the total gallons (Q) of fuel used in that month for the items categorized in Section B.

(4) The engineer will determine the Fuel Cost Adjustment credit or payment from the following formula:

$$FA = \left(\frac{CFI}{BFI} - 1 \right) x\ Q\ x\ BFI$$

(plus is payment to contractor; minus is credit to the department)

Where	FA	=	Fuel Cost Adjustment (plus or minus)
	CFI	=	Current Fuel Index
	BFI	=	Base Fuel Index
	Q	=	Monthly total gallons of fuel

E Payment

A Fuel Cost Adjustment credit to the department will be deducted as a dollar amount each month from any sums due to the contractor. A Fuel Cost Adjustment payment to the contractor will be made as a dollar amount each month.

Upon completion of the work under the contract, any difference between the estimated quantities and the final quantities will be determined. An average CFI, calculated by averaging the CFI for all months that fuel cost adjustment was applied, will be applied to the quantity differences. The average CFI shall be applied in accordance with the procedure set forth in Section D.

ADDITIONAL SPECIAL PROVISION 6
MODIFICATIONS TO THE STANDARD SPECIFICATIONS

Make the following revisions to the 2013 edition of the standard specifications:

106.3.4.3.1 General

Replace paragraph two with the following effective with the November 2012 letting:

(2) Required sampling and testing methodologies and documentation are specified in CMM chapter 8.

(3) If disputed, approval of materials and components, as well as acceptance of the work incorporating those materials or components, is subject to review under the QMP dispute resolution process.

107.17.3 Railroad Insurance Requirements

Replace the entire text with the following effective with the August 2012 letting:

(1) If required by the special provisions, provide or arrange for a subcontractor to provide railroad protective liability insurance in addition to the types and limits of insurance required in 107.26. Keep railroad protective liability insurance coverage in force until completing all work, under or incidental to the contract, on the railroad right of way or premises of the railroad and until the department has accepted the work as specified in 105.11.2.4.

(2) Provide railroad protective liability insurance coverage written as specified in 23 CFR part 646 subpart A. Provide a separate policy for each railroad owning tracks on the project. Ensure that the railroad protective liability insurance policies provide the following minimum limits of coverage:

1. Coverage A, bodily injury liability and property damage liability; $2 million per occurrence.
2. Coverage B, physical damage to property liability; $2 million per occurrence.
3. An annual aggregate amount of $6 million that shall apply separately to each policy renewal or extension.

(3) Obtain coverage from insurance companies licensed to do business in Wisconsin that have an A.M. Best rating of A- or better. The cost of providing the required insurance coverage and limits is incidental to the contract. The department will make no additional or special payment for providing insurance.

(4) Submit the following to each railroad owning tracks on the project as evidence of that railroad's respective coverage:

1. A certificate of insurance for the types and limits of insurance specified in 107.26.
2. The railroad protective liability insurance policy or other acceptable documentation to the railroad company.

(5) Submit the following to the region as evidence of the required coverage:

1. A copy of the letter to the railroad company transmitting the submittal documents specified in 107.17.3(4).
2. A certificate of insurance for the required railroad protective liability coverages.

(6) Do not begin work on the right of way or premises of the railroad company until the region receives the submittals specified in 107.17.3(5) and notification from the railroad company that the contractor has provided sufficient insurance information to begin work.

(7) Notify the railroad and the region immediately upon cancellation or initiating cancellation, whichever is earlier, or any material change in coverage. Cease operations within 50 feet of the railroad right of way immediately if insurance is cancelled or reduced. Do not resume operations until the required coverage is in force.

460.2.8.3.1.4 Department Verification Testing Requirements

Replace paragraph four with the following effective with the December 2012 letting:

(4) The department will randomly test each design mixture at the following minimum frequency:

FOR TONNAGES TOTALING:	
Less than 501 tons	no tests required
From 501 to 5,000 tons	one test
More than 5,000 tons	add one test for each additional 5,000-ton increment

501.2.5.5 Sampling and Testing

Replace the entire text with the following effective with the January 2013 letting:

(1) Sample and test aggregates for concrete according to the following:

Sampling aggregates	AASHTO T2
Lightweight pieces in aggregate	AASHTO T113
Material finer than No. 200 sieve	AASHTO T11
Unit weight of aggregate	AASHTO T19
Organic impurities in sands	AASHTO T21
Sieve analysis of aggregates	AASHTO T27
Effect of organic impurities in fine aggregate	AASHTO T71
Los Angeles abrasion of coarse aggregate	AASHTO T96
Freeze-thaw soundness of coarse aggregate	AASHTO T103
Sodium sulfate soundness of aggregates	AASHTO T104
Specific gravity and absorption of fine aggregate	AASHTO T84
Specific gravity and absorption of coarse aggregate	AASHTO T85
Flat & elongated pieces based on a 3:1 ratio	ASTM D4791[1]
Sampling fresh concrete	AASHTO R60
Making and curing concrete compressive strength test specimens	AASHTO T23
Compressive strength of molded concrete cylinders	AASHTO T22

[1] As modified in CMM 8-60.

506.3.22 Shop Inspection

Replace paragraph one with the following effective with the July 2010 letting:

(1) The engineer or an independent inspection agency under department contract may inspect all structural steel and miscellaneous metals furnished. The department will provide the contractor with monthly consultant inspection invoices and identify any quality deficiencies at the fabrication facility.

506.5 Payment

Add paragraph nine as follows effective with the June 2010 letting:

(9) The department will limit costs for inspections conducted under 506.3.2 to $0.05 per pound of material and deduct costs in excess of that amount from payment due the contractor. The department will determine costs for in-house inspections based on hourly rates for department staff plus overhead and use invoiced costs for contracted-out inspections. The department will administer deductions for the contractor's share of the total inspection cost under the Excess Costs For Fabrication Shop Inspection administrative item.

507.2.2.1 General

Replace paragraph four with the following effective with the December 2012 letting:

(4) Ensure that there are no unsound knots or knot holes. Also ensure that there are no tight knots of a diameter exceeding one-quarter of the greater dimension at the point where they occur. Measure a knot by taking its diameter at right angles to the length of the timber. Ensure that the sum of sizes of all knots in any one-foot length does not exceed 2 times the size of the largest allowed single knot. The engineer will treat cluster knots as if they were a single knot. A cluster knot is 2 or more knots grouped together, with the fibers of the wood deflected around the entire unit.

512.3.1 Driving and Cutting Off

Replace the entire text with the following effective with the December 2012 letting:

512.3.1.1 General

(1) Coordinate driving operations to prevent damage or displacement of concrete in substructure units or damage to adjacent facilities due to vibrations.

(2) Drive sheeting with a variation of 1/4 inch or less per foot from the vertical or from the batter the plans show. Ensure that the sheetpiles are within 6 inches of the plan position after driving. Do not damage sheetpiles attempting to correct for misalignment.

(3) Remove and replace, or otherwise correct, sheetpiles the engineer deems unacceptable under 105.3. Submit details of planned corrections to the engineer for review and approval before initiating any corrective actions.

(4) Drive sheetpiles to or beyond the required tip elevation the plans show.

512.3.1.2 Driving System

(1) Furnish a sheetpile driving system capable of driving the sheetpiles to the required minimum tip elevation the plans show.

(2) The engineer may order the contractor to remove a pile driving system component from service if it causes insufficient energy transfer or damages the sheetpiles. Do not return a component to service until the engineer determines that it has been satisfactorily repaired or adjusted.

(3) Drive sheetpiles with diesel, air, steam, gravity, hydraulic, or vibratory hammers.

512.3.1.3 Cut-Offs

(1) Cut off sheetpiles at the elevations the plans show or as the engineer directs. Pile cut-offs become the property of the contractor. Dispose of cut-offs not incorporated into the work.

526.3.3 Temporary Structures

Replace paragraphs two through four with the following effective with the January 2013 letting:

(2) Inspect temporary structures conforming to the National Bridge Inspection Standards (NBIS) and the department’s structure inspection manual before opening to traffic. Perform additional inspections, as the department’s structure inspection manual requires, based on structure type and time in service. Submit inspection reports on department form DT2007 to the engineer and electronic copies to the department's bureau of structures maintenance section. Ensure that a department-certified active team leader, listed online in the department's highway structures information system (HSIS), performs the inspections.

(3) Maintain temporary structures and approaches in place until no longer needed. Unless the engineer directs otherwise, completely remove and dispose of as specified in 203.3.4. Contractor-furnished materials remain the contractor's property upon removal.

614.2.5 Wood Posts and Offset Blocks

Retitle and replace the entire text with the following effective with the July 2012 letting:

614.2.5 Posts and Offset Blocks

614.2.5.1 Wood Posts and Offset Blocks

(1) Furnish sawed posts and offset blocks of one of the following species:

Douglas fir	Southern pine	Ponderosa pine	Jack pine	White pine
Red pine	Western hemlock	Western larch	Hem-fir	Oak

(2) Ensure that posts are the size the plans show and conform to the nominal and minimum dimensions tabulated in 507.2.2.3. The contractor does not have to surface the posts. Provide posts of the net length the plans show after setting and cut off.

(3) Use stress graded posts rated at 1200 psi f_b or higher. Determine the stress grade rating for douglas fir, western larch, and southern pine as specified in 507.2.2.4.

(4) For hem-fir, hemlock, red pine, white pine, jack pine, ponderosa pine, and oak conform to the following:

TABLE 614-1 PROPERTIES FOR WOOD POSTS AND BLOCKS

SPECIES			WESTERN HEMLOCK, HEM-FIR, RED PINE, WHITE PINE, JACK PINE, PONDEROSA PINE		OAK	
MAXIMUM SLOPE OF GRAIN			1 in 15		1 in 12	
NOMINAL WIDTH OF FACE			6"	8"	6"	8"
SHAKES, CHECKS, AND SPLITS		GREEN	1"	1 3/8"	2 3/8"	3 1/8"
		SEASONED	1 1/2"	2"	2 5/8"	3 1/2"
MAXIMUM WANE			1"	1 3/8"	1 1/8"	1 5/8"
MAXIMUM ALLOWABLE KNOTS	NARROW FACE	MIDDLE 1/3 OF LENGTH	1 3/8"	1 5/8"	2 1/8"	2 3/8"
		END[1]	2 3/4"	3 1/4"	4 1/4"	4 3/4"
		SUM IN MIDDLE 1/2 OF LENGTH[2]	11"	13"	17"	19
	WIDE FACE	EDGE KNOT N MIDDLE 1/3 OF LENGTH	1 3/8"	1 5/8"		
		EDGE KNOT AT END[1]	2 3/4" 7	3 1/4"		
		CENTERLINE	1 3/8"	1 7/8"	2 1/4"	2 7/8"
		SUM IN MIDDLE 1/2 OF LENGTH	5 1/2"	7 1/2"	9"	11 1/2"

[1] But do not exceed the maximum allowable knot on the centerline of the wide face of the same piece.

[2] But do not exceed 4 times the maximum allowable knot on the centerline of the wide face of the same piece.

(5) Pressure treat posts and offset blocks as specified in 507.2.2.6. Use one of the oil-soluble preservatives or chromated copper arsenate conforming to 507.2.3. Use the same material for offset blocks and posts and treat material used in each continuous installation with the same type of preservative.

614.2.5.2 Steel Posts

(1) Furnish steel posts conforming to AASHTO M270 Grade 36 and galvanized according to AASTHO M111.

614.2.5.3 Plastic Offset Blocks

(1) Furnish plastic offset blocks from the department's approved products list.

614.3.1 General

Replace the entire text with the following effective with the July 2012 letting:

(1) Paint the ends of cut-off galvanized posts, rail, bolts, cut or drilled surfaces of galvanized components, and areas of damaged zinc coating with 2 coats of zinc dust/zinc oxide paint. Clean the damaged and adjacent areas thoroughly before applying paint.

(2) Apply 2 coats of wood preservative to cut surfaces of wood components. Use the same preservative originally used to treat that component or use a 2-percent solution of copper naphthenate conforming to AWPA Standard P8 or P36.

614.3.2.1 Installing Posts

Replace paragraph four with the following effective with the July 2012 letting:

(4) Cut post tops to the finished elevation the plans show.

628.2.13 Rock Bags

Replace paragraph one with the following effective with the November 2012 letting:

(1) Furnish rock bags made of a porous, ultraviolet resistant, high-density polyethylene or geotextile fabric that will retain 70% of its original strength after 500 hours of exposure according to ASTM D4355 and a minimum in-place filled size of 18-inches long by 12-inches wide by 6-inches high. Ensure that the fabric conforms to the following:

TEST REQUIREMENT	METHOD	VALUE
Minimum Tensile	ASTM D4632	
Machine direction		70 lb minimum
Cross direction		40 lb minimum
Elongation	ASTM D4632	
Machine direction		20% minimum
Cross direction		10 % min
Puncture	ASTM 4833	65 lbs minimum
Minimum Apparent Opening		0.0234 inches (No. 30 sieve)
Maximum Apparent Opening		0.0787 inches (No. 10 sieve)

701.4.2 Verification Testing

Replace paragraph two with the following effective with the December 2012 letting:

(2) The department will sample randomly at locations independent of the contractor’s QC tests and use separate equipment and laboratories. The department will conduct a minimum of one verification test for each 5 contractor QC tests unless specific QMP provisions specify otherwise.

715.3.1.3 Department Verification Testing

Replace paragraph one with the following effective with the December 2012 letting:

(1) The department will perform verification testing as specified in 701.4.2 except as follows:

- Air content, slump, and temperature: a minimum of 1 verification test per lot.
- Compressive strength: a minimum of 1 verification test per lot.

Errata

Make the following corrections to the 2012 edition of the standard specifications:

107.22 Contractor's Responsibility for Utility Facilities, Property, and Services

Correct errata by eliminating references to the department. Costs are determined by statute.

(3) If the contractor damages or interrupts service, the contractor shall notify the utility promptly. Coordinate and cooperate with the utility in the repair of the facility. Determine who is responsible for repair costs according to Wisconsin statutes 66.0831 and 182.0175(2).

506.2.6.5.2 Pad Construction

Correct errata by changing ASTM A570 to ASTM A1011.

(4) For the internal steel plates use rolled mild steel conforming to ASTM A36, or ASTM A1011 grade

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512.3.3 Painting

Correct errata by changing 511.3.5 to 550.3.11.3.

(1) Paint permanent steel sheet piling as specified for painting steel piling in 550.3.11.3.

513.2.2.8 Toggle Bolts

Correct errata by changing r ASTM A570 to ASTM A1011.

(1) Use toggle bolts made of steel, conforming to the plans. Make the assembly from the material specified below:

Toggle bolt and pin	Cold finished steel heat-treated Brinell 311-363 ASTM A354.
Toggle washer	Hot rolled steel ASTM A1011. Manufacturer's standard washer.
Spacer nut	Grade 1213, ASTM A108. Cold finished steel heat-treated ASTM A325.

660.2.1 General

Correct errata by changing section 511 to 550.

(1) Furnish materials conforming to the following:

Concrete	section 501
Concrete bridges	section 502
Luminaires	section 659
Steel piling	section 550
Steel reinforcement	section 505

660.3.2.3 Pile Type Foundations

Correct errata by changing section 511 to 550.

(1) Drive piles as specified in for steel piling in section 550.

701.3 Contractor Testing

Correct errata by changing AASHTO T141 to AASHTO R60 and changing AASHTO T309 to ASTM C1064.

(1) Perform contract required QC tests for samples randomly located according to CMM 8-30. Also perform other tests as necessary to control production and construction processes, and additional testing enumerated in the contractor's quality control plan or that the engineer directs. Use test methods as follows:

TABLE 701-2 TESTING STANDARDS

TEST	TEST STANDARD
Washed P 200 analysis	AASHTO T11[1]
Sieve analysis of fine and coarse aggregate	AASHTO T27[1]
Aggregate moisture	AASHTO T255[1]
Sampling freshly mixed concrete	AASHTO R60
Air content of fresh concrete	AASHTO T152[2]
Concrete slump	AASHTO T119[2]
Concrete temperature	ASTM C1064
Concrete compressive strength	AASHTO T22
Making and curing concrete cylinders	AASHTO T23
Standard moist curing for concrete cylinders	AASHTO M201

[1] As modified in CMM 8-60.

[2] As modified in CMM 8-70.

ADDITIONAL SPECIAL PROVISION 7

A. Reporting 1st Tier and DBE Payments During Construction

1. Comply with reporting requirements specified in the department's Civil Rights Compliance, Contractor's User Manual, Sublets and Payments.
2. Report payments to all DBE firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by a DBE firm. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.
3. Report payments to all first tier subcontractor relationships within 10 calendar days of receipt of a progress payment by the department for work performed. Report the payment as specified in A(1) for all work satisfactorily performed.
4. All tiers shall report payments as necessary to comply with the DBE payment requirement as specified in A(2).
5. Require all first tier relationships, DBE firms and all other tier relationships necessary to comply with the DBE payment requirement in receipt of a progress payment by contractor to acknowledge receipt of payment as specified in A(1), (2), (3) and (4).
6. All agreements made by a contractor shall include the provisions in A(1), (2), (3), (4) and (5), and shall be binding on all first tier subcontractor relationships and all contractors and subcontractors utilizing DBE firms on the project.

B. Costs for conforming to this special provision are incidental to the contract.

ADDITIONAL SPECIAL PROVISION 9
Electronic Certified Payroll Submittal

(1) Use the department's Civil Rights Compliance System (CRCS) to submit certified payrolls electronically. Details are available online through the department's highway construction contractor information (HCCI) site on the Labor, Wages, and EEO Information page at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm

(2) Ensure that all tiers of subcontractors, as well as all trucking firms, submit their weekly certified payrolls electronically through CRCS. These payrolls are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin payrolls. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Tess Mulrooney at 608-267-4489 to schedule the training.

(4) The department will reject all paper submittals of forms DT-1816 and DT-1929 for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.

(5) Firms wishing to export payroll data from their computer system into CRCS should have their payroll coordinator send several sample electronic files to Tess two months before a payroll needs to be submitted. Not every contractor's payroll system is capable of producing export files. For details, see section 3.2 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/docs/crc-basic-info.pdf

Effective with September 2004 Letting

WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES

SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS

I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contacts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this in not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

II. PAYROLL REQUIREMENTS

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

III. POSTINGS AT THE SITE OF THE WORK

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.

b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)

c. A copy of the contractor's Equal Employment Opportunity Policy.

d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

IV. WAGE RATE REDISTRIBUTION

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

V. ADDITIONAL CLASSIFICATIONS

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.

2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.

3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.

4. The unlisted classification must be commonly employed in the area where the project is located.

5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.

6. The request should be made prior to the actual performance of the work by the unlisted classification.

7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.

8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe

benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

ANNUAL PREVAILING WAGE RATE DETERMINATION
FOR ALL STATE HIGHWAY PROJECTS
JEFFERSON COUNTY

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on April 1, 2012

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions reqarding the proper trade or classification to be used for any worker on a public works project.

OVERTIME: Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

FUTURE INCREASE: If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

SUBJOURNEY: Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Bricklayer, Blocklayer or Stonemason	32.66	15.92	48.58
Carpenter	29.06	15.16	44.22
Cement Finisher	29.35	15.05	44.40
Electrician	37.25	15.79	53.04
Fence Erector	35.62	0.00	35.62
Ironworker	30.90	19.11	50.01
Line Constructor (Electrical)	35.97	18.08	54.05
Painter	27.87	14.39	42.26
Pavement Marking Operator	27.87	15.02	42.89
Piledriver	29.56	15.16	44.72
Roofer or Waterproofer	28.85	7.55	36.40
Teledata Technician or Installer	24.65	4.49	29.14
Tuckpointer, Caulker or Cleaner	32.66	16.67	49.33
Underwater Diver (Except on Great Lakes)	36.20	18.81	55.01
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	33.87	16.10	49.97
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	28.78	14.42	43.20
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	26.98	13.21	40.19
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	23.38	12.48	35.86
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.30	10.97	32.27
TRUCK DRIVERS			
Single Axle or Two Axle	22.35	16.19	38.54
Future Increase(s): Add $1.75/hr on 6/1/2012; Add $1.85/hr on 6/1/2013.			

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Three or More Axle	22.50	16.19	38.69
Future Increase(s): Add $1.75/hr on 6/1/2012; Add $1.85/hr on 6/1/2013. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Articulated, Euclid, Dumptor, Off Road Material Hauler	26.77	18.90	45.67
Future Increase(s): Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Pavement Marking Vehicle	23.84	14.70	38.54
Shadow or Pilot Vehicle	24.76	15.35	40.11
Truck Mechanic	24.91	15.35	40.26
LABORERS			
General Laborer	26.92	13.45	40.37
Future Increase(s): Add $1.60/hr on 6/1/2012: Add $1.70/hr on 6/1/2013; Add $1.60/hr on 6/1/2014. Premium Pay: Add $.10/hr for topman, air tool operator, vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add $.15/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add $.20/hr for blaster and powderman; Add $.25/hr for bottomman; Add $.35/hr for line and grade specialist; Add $.45/hr for pipelayer. DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Asbestos Abatement Worker	23.96	12.88	36.84
Landscaper	26.92	13.45	40.37
Future Increase(s): Add $1.60/hr on 6/1/12; Add $1.70/hr on 6/1/13; Add $1.60/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Flagperson or Traffic Control Person	20.20	17.37	37.57
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.09	14.40	31.49
Railroad Track Laborer	17.00	7.45	24.45
HEAVY EQUIPMENT OPERATORS			
Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type).	34.22	18.90	53.12

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
Future Increase(s): Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver.	33.72	18.90	52.62
Future Increase(s): Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, VIbratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane WIth a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A- Frames.	33.22	18.90	52.12
Future Increase(s): Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete	32.96	18.90	51.86

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or WIthout Attachments); Telehandler; Tining or Curing Machine. Future Increase(s): Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack. Future Increase(s): Add $2/hr on 6/1/12; Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).	32.67	18.90	51.57
Fiber Optic Cable Equipment.	24.39	15.45	39.84

CONTRACT: 20130212002 PROJECT(S): 1390-04-80 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 CONTRACT ITEMS					
0010	201.0105 CLEARING	418.000 STA	.		.	
0020	201.0205 GRUBBING	418.000 STA	.		.	
0030	203.0100 REMOVING SMALL PIPE CULVERTS	66.000 EACH	.		.	
0040	203.0200 REMOVING OLD STRUCTURE (STATION) 01. 25+27	LUMP	LUMP			.
0050	203.0200 REMOVING OLD STRUCTURE (STATION) 02. 696+05	LUMP	LUMP			.
0060	203.0200 REMOVING OLD STRUCTURE (STATION) 03. 789+91	LUMP	LUMP			.
0070	203.0200 REMOVING OLD STRUCTURE (STATION) 04. 817+77	LUMP	LUMP			.
0080	203.0200 REMOVING OLD STRUCTURE (STATION) 05. 666+05	LUMP	LUMP			.
0090	204.0100 REMOVING PAVEMENT	96,090.000 SY	.		.	
0100	204.0110 REMOVING ASPHALTIC SURFACE	220.000 SY	.		.	

CONTRACT: 20130212002 PROJECT(S): 1390-04-80 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0110	204.0120 REMOVING ASPHALTIC SURFACE MILLING	1,930.000 SY		.		.
0120	204.0150 REMOVING CURB & GUTTER	1,810.000 LF		.		.
0130	204.0170 REMOVING FENCE	4,670.000 LF		.		.
0140	204.0180 REMOVING DELINEATORS AND MARKERS	280.000 EACH		.		.
0150	204.0220 REMOVING INLETS	3.000 EACH		.		.
0160	204.0235 REMOVING BUILDINGS (PARCEL) 01. SMALL METAL SHED	LUMP	LUMP			.
0170	204.0235 REMOVING BUILDINGS (PARCEL) 02. BARN FOUNDATION, SILO	LUMP	LUMP			.
0180	204.0235 REMOVING BUILDINGS (PARCEL) 03. SMALL SHED	LUMP	LUMP			.
0190	204.0235 REMOVING BUILDINGS (PARCEL) 04. SMALL MANURE / DUMP PIT	LUMP	LUMP			.
0200	204.0240 SITE CLEARANCE (PARCEL) 01. SMALL METAL SHED	LUMP	LUMP			.
0210	204.0240 SITE CLEARANCE (PARCEL) 02. BARN FOUNDATION, SILO	LUMP	LUMP			.

CONTRACT: 20130212002 PROJECT(S): 1390-04-80 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0220	204.0240 SITE CLEARANCE (PARCEL) 03. SMALL SHED	LUMP	LUMP			.
0230	204.0240 SITE CLEARANCE (PARCEL) 04. SMALL MANURE / DUMP PIT	LUMP	LUMP			.
0240	204.0265 ABANDONING WELLS	2.000 EACH	.			.
0250	204.9105.S REMOVING (ITEM DESCRIPTION) 01. REMOVING CTH J EAST APPROACH SLAB	LUMP	LUMP			.
0260	205.0100 EXCAVATION COMMON	749,871.000 CY	.			.
0270	205.0400 EXCAVATION MARSH	11,188.000 CY	.			.
0280	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01.B-28-131	LUMP	LUMP			.
0290	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 02. B-28-132	LUMP	LUMP			.
0300	206.2000 EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 01. C-28-32	LUMP	LUMP			.
0310	208.0100 BORROW	91,674.000 CY	.			.

CONTRACT: 20130212002 PROJECT(S): 1390-04-80 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0320	210.0100 BACKFILL STRUCTURE	1,920.000 CY		.		.
0330	211.0100 PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) 01. 1390-04-80	LUMP	LUMP			.
0340	213.0100 FINISHING ROADWAY (PROJECT) 01. 1390-04-80	1.000 EACH		.		.
0350	214.0100 OBLITERATING OLD ROAD	6.100 STA		.		.
0360	305.0110 BASE AGGREGATE DENSE 3/4-INCH	13,480.000 TON		.		.
0370	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	219,010.000 TON		.		.
0380	305.0125 BASE AGGREGATE DENSE 1 1/4-INCH	100.000 CY		.		.
0390	311.0115 BREAKER RUN	150.000 CY		.		.
0400	312.0110 SELECT CRUSHED MATERIAL	299,330.000 TON		.		.
0410	415.0090 CONCRETE PAVEMENT 9-INCH	164,960.000 SY		.		.
0420	415.0410 CONCRETE PAVEMENT APPROACH SLAB	260.000 SY		.		.

CONTRACT: 20130212002 PROJECT(S): 1390-04-80 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS		UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0430	415.1095 CONCRETE PAVEMENT HES 9 1/2-INCH	310.000	SY		.		.
0440	415.6000.S ROUTE AND SEAL	85,670.000	LF		.		.
0450	416.0160 CONCRETE DRIVEWAY 6-INCH	300.000	SY		.		.
0460	416.0610 DRILLED TIE BARS	93.000	EACH		.		.
0470	416.0620 DRILLED DOWEL BARS	196.000	EACH		.		.
0480	416.1110 CONCRETE RUMBLE STRIPS SHOULDER	43,280.000	LF		.		.
0490	440.4410.S INCENTIVE IRI RIDE	37,880.000	DOL	1.00000		37880.00	
0500	455.0105 ASPHALTIC MATERIAL PG58-28	1,290.000	TON		.		.
0510	455.0605 TACK COAT	3,130.000	GAL		.		.
0520	460.1100 HMA PAVEMENT TYPE E-0.3	17,490.000	TON		.		.
0530	460.1101 HMA PAVEMENT TYPE E-1	5,420.000	TON		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0540	460.2000 INCENTIVE DENSITY HMA PAVEMENT	14,950.000 DOL	1.00000		14950.00	
0550	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	480.000 TON		.		.
0560	465.0125 ASPHALTIC SURFACE TEMPORARY	950.000 TON		.		.
0570	465.0315 ASPHALTIC FLUMES	255.000 SY		.		.
0580	465.0400 ASPHALTIC SHOULDER RUMBLE STRIP	42,190.000 LF		.		.
0590	492.2010.S SEALING CRACKS AND JOINTS WITH HOT-APPLIED SEALANT	240.000 GAL		.		.
0600	502.0100 CONCRETE MASONRY BRIDGES	1,829.000 CY		.		.
0610	502.3100 EXPANSION DEVICE (STRUCTURE) 01. B-28-131	LUMP	LUMP			.
0620	502.3200 PROTECTIVE SURFACE TREATMENT	3,270.000 SY		.		.
0630	503.0172 PRESTRESSED GIRDER TYPE I 72W-INCH	2,584.000 LF		.		.
0640	504.0100 CONCRETE MASONRY CULVERTS	92.000 CY		.		.

CONTRACT: 20130212002 PROJECT(S): 1390-04-80 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0650	505.0405 BAR STEEL REINFORCEMENT HS BRIDGES	26,950.000 LB		.		.
0660	505.0410 BAR STEEL REINFORCEMENT HS CULVERTS	15,750.000 LB		.		.
0670	505.0605 BAR STEEL REINFORCEMENT HS COATED BRIDGES	295,930.000 LB		.		.
0680	506.2605 BEARING PADS ELASTOMERIC NON-LAMINATED	32.000 EACH		.		.
0690	506.2610 BEARING PADS ELASTOMERIC LAMINATED	8.000 EACH		.		.
0700	506.4000 STEEL DIAPHRAGMS (STRUCTURE) 01. B-28-131	18.000 EACH		.		.
0710	506.4000 STEEL DIAPHRAGMS (STRUCTURE) 02. B-28-132	12.000 EACH		.		.
0720	509.5100.S POLYMER OVERLAY	1,485.000 SY		.		.
0730	513.4090 RAILING TUBULAR SCREENING (STRUCTURE) 01. B-28-131	LUMP	LUMP			.
0740	513.4090 RAILING TUBULAR SCREENING (STRUCTURE) 02. B-28-132	LUMP	LUMP			.
0750	516.0500 RUBBERIZED MEMBRANE WATERPROOFING	107.000 SY		.		.

CONTRACT: 20130212002 PROJECT(S): 1390-04-80 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0760	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 01. B-28-131	1,670.000 SF		.		.
0770	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 02. B-28-132	1,135.000 SF		.		.
0780	520.4015 CULVERT PIPE TEMPORARY 15-INCH	732.000 LF		.		.
0790	520.4024 CULVERT PIPE TEMPORARY 24-INCH	194.000 LF		.		.
0800	520.4030 CULVERT PIPE TEMPORARY 30-INCH	11.000 LF		.		.
0810	520.4042 CULVERT PIPE TEMPORARY 42-INCH	82.000 LF		.		.
0820	520.8000 CONCRETE COLLARS FOR PIPE	2.000 EACH		.		.
0830	521.0112 CULVERT PIPE CORRUGATED STEEL 12-INCH	229.000 LF		.		.
0840	521.0115 CULVERT PIPE CORRUGATED STEEL 15-INCH	249.000 LF		.		.
0850	521.0118 CULVERT PIPE CORRUGATED STEEL 18-INCH	928.000 LF		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0860	521.0124 CULVERT PIPE CORRUGATED STEEL 24-INCH	671.000 LF		.		.
0870	521.0130 CULVERT PIPE CORRUGATED STEEL 30-INCH	336.000 LF		.		.
0880	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH	12.000 EACH		.		.
0890	521.1015 APRON ENDWALLS FOR CULVERT PIPE STEEL 15-INCH	13.000 EACH		.		.
0900	521.1018 APRON ENDWALLS FOR CULVERT PIPE STEEL 18-INCH	19.000 EACH		.		.
0910	521.1024 APRON ENDWALLS FOR CULVERT PIPE STEEL 24-INCH	14.000 EACH		.		.
0920	521.1030 APRON ENDWALLS FOR CULVERT PIPE STEEL 30-INCH	8.000 EACH		.		.
0930	521.1515 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 15-INCH 6 TO 1	4.000 EACH		.		.
0940	521.1518 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 18-INCH 6 TO 1	10.000 EACH		.		.
0950	521.1524 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 24-INCH 6 TO 1	8.000 EACH		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0960	521.1530 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 30-INCH 6 TO 1	6.000 EACH		.		.
0970	521.1618 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 18-INCH 10 TO 1	4.000 EACH		.		.
0980	522.0115 CULVERT PIPE REINFORCED CONCRETE CLASS III 15-INCH	34.000 LF		.		.
0990	522.0118 CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH	1,116.000 LF		.		.
1000	522.0124 CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	486.000 LF		.		.
1010	522.0130 CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH	66.000 LF		.		.
1020	522.0136 CULVERT PIPE REINFORCED CONCRETE CLASS III 36-INCH	513.000 LF		.		.
1030	522.0142 CULVERT PIPE REINFORCED CONCRETE CLASS III 42-INCH	622.000 LF		.		.
1040	522.0148 CULVERT PIPE REINFORCED CONCRETE CLASS III 48-INCH	256.000 LF		.		.
1050	522.0318 CULVERT PIPE REINFORCED CONCRETE CLASS IV 18-INCH	166.000 LF		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1060	522.0324 CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH	136.000 LF		.		.
1070	522.0330 CULVERT PIPE REINFORCED CONCRETE CLASS IV 30-INCH	346.000 LF		.		.
1080	522.0512 CULVERT PIPE REINFORCED CONCRETE CLASS V 12-INCH	34.000 LF		.		.
1090	522.0518 CULVERT PIPE REINFORCED CONCRETE CLASS V 18-INCH	296.000 LF		.		.
1100	522.0524 CULVERT PIPE REINFORCED CONCRETE CLASS V 24-INCH	352.000 LF		.		.
1110	522.0530 CULVERT PIPE REINFORCED CONCRETE CLASS V 30-INCH	618.000 LF		.		.
1120	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	2.000 EACH		.		.
1130	522.1015 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	1.000 EACH		.		.
1140	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	16.000 EACH		.		.
1150	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	9.000 EACH		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1160	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	6.000 EACH		.		.
1170	522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH	4.000 EACH		.		.
1180	522.1042 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH	6.000 EACH		.		.
1190	522.1048 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH	2.000 EACH		.		.
1200	523.0119 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 19X30-INCH	207.000 LF		.		.
1210	523.0124 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 24X38-INCH	14.000 LF		.		.
1220	523.0129 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 29X45-INCH	242.000 LF		.		.
1230	523.0424 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH	178.000 LF		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1240	523.0519 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH	2.000 EACH		.		.
1250	523.0524 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH	8.000 EACH		.		.
1260	523.0529 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 29X45-INCH	1.000 EACH		.		.
1270	532.0300.S WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH	1,880.000 SF		.		.
1280	550.0010 PRE-BORING UNCONSOLIDATED MATERIALS	910.000 LF		.		.
1290	550.2106 PILING CIP CONCRETE 10 3/4 X 0. 365-INCH	960.000 LF		.		.
1300	550.2126 PILING CIP CONCRETE 12 3/4 X 0. 375-INCH	7,135.000 LF		.		.
1310	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D	620.000 LF		.		.
1320	601.0551 CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE A	1,230.000 LF		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1330	601.0553 CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D	2,350.000 LF		.		.
1340	602.0405 CONCRETE SIDEWALK 4-INCH	600.000 SF		.		.
1350	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW	100.000 SF		.		.
1360	603.1142 CONCRETE BARRIER TYPE S42	956.000 LF		.		.
1370	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	2,500.000 LF		.		.
1380	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	2,500.000 LF		.		.
1390	604.0500 SLOPE PAVING CRUSHED AGGREGATE	810.000 SY		.		.
1400	606.0100 RIPRAP LIGHT	767.000 CY		.		.
1410	606.0200 RIPRAP MEDIUM	20.000 CY		.		.
1420	606.0300 RIPRAP HEAVY	50.000 CY		.		.
1430	611.0550 MANHOLE COVERS TYPE M	2.000 EACH		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1440	611.0642 INLET COVERS TYPE MS	43.000 EACH		.		.
1450	611.0651 INLET COVERS TYPE S	1.000 EACH		.		.
1460	611.0654 INLET COVERS TYPE V	4.000 EACH		.		.
1470	611.2005 MANHOLES 5-FT DIAMETER	1.000 EACH		.		.
1480	611.3220 INLETS 2X2-FT	4.000 EACH		.		.
1490	611.3225 INLETS 2X2.5-FT	1.000 EACH		.		.
1500	611.3901 INLETS MEDIAN 1 GRATE	10.000 EACH		.		.
1510	611.3902 INLETS MEDIAN 2 GRATE	13.000 EACH		.		.
1520	611.8120.S COVER PLATES TEMPORARY	6.000 EACH		.		.
1530	611.9800.S PIPE GRATES	15.000 EACH		.		.
1540	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH	91.000 LF		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1550	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH	720.000 LF		.		.
1560	614.0150 ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	8.000 EACH		.		.
1570	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL	2.000 EACH		.		.
1580	614.0230 STEEL THRIE BEAM	125.000 LF		.		.
1590	614.0905 CRASH CUSHIONS TEMPORARY	8.000 EACH		.		.
1600	614.2300 MGS GUARDRAIL 3	675.000 LF		.		.
1610	614.2340 MGS GUARDRAIL 3 L	100.000 LF		.		.
1620	614.2500 MGS THRIE BEAM TRANSITION	355.000 LF		.		.
1630	614.2610 MGS GUARDRAIL TERMINAL EAT	11.000 EACH		.		.
1640	614.2620 MGS GUARDRAIL TERMINAL TYPE 2	2.000 EACH		.		.
1650	616.0100 FENCE WOVEN WIRE (HEIGHT) 01. 4-FT	3,110.000 LF		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1660	616.0206 FENCE CHAIN LINK 6-FT	475.000 LF		.		.
1670	616.0700.S FENCE SAFETY	4,750.000 LF		.		.
1680	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1390-04-80	1.000 EACH		.		.
1690	619.1000 MOBILIZATION	1.000 EACH		.		.
1700	620.0100 CONCRETE CORRUGATED MEDIAN	3,880.000 SF		.		.
1710	620.0300 CONCRETE MEDIAN SLOPED NOSE	280.000 SF		.		.
1720	623.0200 DUST CONTROL SURFACE TREATMENT	200,000.000 SY		.		.
1730	624.0100 WATER	2,420.000 MGAL		.		.
1740	625.0500 SALVAGED TOPSOIL	609,840.000 SY		.		.
1750	627.0200 MULCHING	414,120.000 SY		.		.
1760	628.1504 SILT FENCE	45,500.000 LF		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1770	628.1520 SILT FENCE MAINTENANCE	22,750.000 LF		.		.
1780	628.1905 MOBILIZATIONS EROSION CONTROL	30.000 EACH		.		.
1790	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	15.000 EACH		.		.
1800	628.2002 EROSION MAT CLASS I TYPE A	96,120.000 SY		.		.
1810	628.2004 EROSION MAT CLASS I TYPE B	126,800.000 SY		.		.
1820	628.2023 EROSION MAT CLASS II TYPE B	43,710.000 SY		.		.
1830	628.6005 TURBIDITY BARRIERS	400.000 SY		.		.
1840	628.7005 INLET PROTECTION TYPE A	66.000 EACH		.		.
1850	628.7504 TEMPORARY DITCH CHECKS	2,692.000 LF		.		.
1860	628.7555 CULVERT PIPE CHECKS	562.000 EACH		.		.
1870	628.7560 TRACKING PADS	10.000 EACH		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1880	629.0210 FERTILIZER TYPE B	486.000 CWT		.		.
1890	630.0120 SEEDING MIXTURE NO. 20	20,388.000 LB		.		.
1900	630.0160 SEEDING MIXTURE NO. 60	541.000 LB		.		.
1910	630.0200 SEEDING TEMPORARY	10,224.000 LB		.		.
1920	630.0300 SEEDING BORROW PIT	1,400.000 LB		.		.
1930	632.0101 TREES (SPECIES, ROOT, SIZE) 01. COMMON WITCHHAZEL, B&B, 4' HT	11.000 EACH		.		.
1940	632.0101 TREES (SPECIES, ROOT, SIZE) 02. ALLEGHENY SERVICEBERRY, B&B, 5' HT	12.000 EACH		.		.
1950	632.0101 TREES (SPECIES, ROOT, SIZE) 03. COLORADO SPRUCE, B&B, 8' HT	55.000 EACH		.		.
1960	632.0101 TREES (SPECIES, ROOT, SIZE) 04. BLACK HILL SPRUCE, B&B, 8' HT	41.000 EACH		.		.
1970	632.0101 TREES (SPECIES, ROOT, SIZE) 05. DOUGLAS FIR, B&B, 8' HT	18.000 EACH		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1980	632.0101 TREES (SPECIES, ROOT, SIZE) 06. WHITE FIR, B&B, 8' HT	37.000 EACH		.		.
1990	632.0101 TREES (SPECIES, ROOT, SIZE) 07. SUGAR MAPLE, B&B, 2 1/2-INCH CAL	6.000 EACH		.		.
2000	632.0101 TREES (SPECIES, ROOT, SIZE) 08. HONEYLOCUST, B&B, 2 1/2-INCH CAL	2.000 EACH		.		.
2010	632.0101 TREES (SPECIES, ROOT, SIZE) 09. KENTUCKY COFFEETREE, B&B, 2 1/2- INCH CAL	4.000 EACH		.		.
2020	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 01. SMOOTH SUMAC, #5 CONT., 48" HT	16.000 EACH		.		.
2030	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 02. NANNYBERRY VIBURNUM, B&B, 48" HT	11.000 EACH		.		.
2040	632.9101 LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES	20.000 EACH		.		.
2050	633.0100 DELINEATOR POSTS STEEL	206.000 EACH		.		.
2060	633.0500 DELINEATOR REFLECTORS	277.000 EACH		.		.
2070	633.1000 DELINEATOR BRACKETS	9.000 EACH		.		.

CONTRACT: 20130212002 PROJECT(S): 1390-04-80 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2080	633.1100 DELINEATORS TEMPORARY	240.000 EACH		.		.
2090	633.5200 MARKERS CULVERT END	132.000 EACH		.		.
2100	634.0412 POSTS WOOD 4X4-INCH X 12-FT	25.000 EACH		.		.
2110	634.0612 POSTS WOOD 4X6-INCH X 12-FT	9.000 EACH		.		.
2120	634.0614 POSTS WOOD 4X6-INCH X 14-FT	65.000 EACH		.		.
2130	634.0616 POSTS WOOD 4X6-INCH X 16-FT	94.000 EACH		.		.
2140	634.0618 POSTS WOOD 4X6-INCH X 18-FT	53.000 EACH		.		.
2150	634.0620 POSTS WOOD 4X6-INCH X 20-FT	25.000 EACH		.		.
2160	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS	4,734.000 LB		.		.
2170	636.0100 SIGN SUPPORTS CONCRETE MASONRY	8.000 CY		.		.
2180	636.0500 SIGN SUPPORTS STEEL REINFORCEMENT	490.000 LB		.		.

CONTRACT: 20130212002 PROJECT(S): 1390-04-80 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2190	637.0101 SIGNS TYPE I	1,351.000 SF		.		.
2200	637.0103 SIGNS TYPE III	30.000 SF		.		.
2210	637.0202 SIGNS REFLECTIVE TYPE II	2,487.220 SF		.		.
2220	638.2101 MOVING SIGNS TYPE I	1.000 EACH		.		.
2230	638.2102 MOVING SIGNS TYPE II	12.000 EACH		.		.
2240	638.2602 REMOVING SIGNS TYPE II	213.000 EACH		.		.
2250	638.2603 REMOVING SIGNS TYPE III	4.000 EACH		.		.
2260	638.3000 REMOVING SMALL SIGN SUPPORTS	195.000 EACH		.		.
2270	638.3100 REMOVING STRUCTURAL STEEL SIGN SUPPORTS	2.000 EACH		.		.
2280	638.4000 MOVING SMALL SIGN SUPPORTS	10.000 EACH		.		.
2290	642.5401 FIELD OFFICE TYPE D	1.000 EACH		.		.

CONTRACT: 20130212002 PROJECT(S): 1390-04-80 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2300	643.0100 TRAFFIC CONTROL (PROJECT) 01. 1390-04-80	1.000 EACH		.		.
2310	643.0300 TRAFFIC CONTROL DRUMS	242,480.000 DAY		.		.
2320	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	34,420.000 DAY		.		.
2330	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	530.000 EACH		.		.
2340	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	530.000 EACH		.		.
2350	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	68,576.000 DAY		.		.
2360	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	52,480.000 DAY		.		.
2370	643.0800 TRAFFIC CONTROL ARROW BOARDS	1,320.000 DAY		.		.
2380	643.0900 TRAFFIC CONTROL SIGNS	40,428.000 DAY		.		.
2390	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II	17.000 EACH		.		.
2400	643.2000 TRAFFIC CONTROL DETOUR (PROJECT) 01. 1390-04-80	1.000 EACH		.		.

CONTRACT: 20130212002 PROJECT(S): 1390-04-80 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2410	643.3000 TRAFFIC CONTROL DETOUR SIGNS	470.000 DAY		.		.
2420	645.0105 GEOTEXTILE FABRIC TYPE C	250.000 SY		.		.
2430	645.0120 GEOTEXTILE FABRIC TYPE HR	170.000 SY		.		.
2440	645.0130 GEOTEXTILE FABRIC TYPE R	3,180.000 SY		.		.
2450	646.0106 PAVEMENT MARKING EPOXY 4-INCH	174,120.000 LF		.		.
2460	646.0126 PAVEMENT MARKING EPOXY 8-INCH	9,250.000 LF		.		.
2470	646.0600 REMOVING PAVEMENT MARKINGS	118,050.000 LF		.		.
2480	646.0841.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH	1,234.000 LF		.		.
2490	646.0843.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH	1,560.000 LF		.		.
2500	647.0256 PAVEMENT MARKING SYMBOLS EPOXY	1.000 EACH		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2510	647.0456 PAVEMENT MARKING CURB EPOXY	105.000 LF		.		.
2520	647.0526 PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH	15.000 EACH		.		.
2530	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH	310.000 LF		.		.
2540	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY	9.000 EACH		.		.
2550	647.0656 PAVEMENT MARKING PARKING STALL EPOXY	335.000 LF		.		.
2560	647.0746 PAVEMENT MARKING DIAGONAL EPOXY 24-INCH	140.000 LF		.		.
2570	649.0200 TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH	108,540.000 LF		.		.
2580	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	9,070.000 LF		.		.
2590	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	840.000 LF		.		.
2600	650.4500 CONSTRUCTION STAKING SUBGRADE	84,950.000 LF		.		.
2610	650.5000 CONSTRUCTION STAKING BASE	34,260.000 LF		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2620	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	2,960.000 LF		.		.
2630	650.6000 CONSTRUCTION STAKING PIPE CULVERTS	102.000 EACH		.		.
2640	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. C-28-32	LUMP	LUMP			.
2650	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 02. B-28-131	LUMP	LUMP			.
2660	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 03. B-28-132	LUMP	LUMP			.
2670	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 04. R-28-30	LUMP	LUMP			.
2680	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT	50,550.000 LF		.		.
2690	650.7500 CONSTRUCTION STAKING CONCRETE BARRIER	956.000 LF		.		.
2700	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1390-04-80	LUMP	LUMP			.
2710	650.9920 CONSTRUCTION STAKING SLOPE STAKES	82,370.000 LF		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2720	690.0150 SAWING ASPHALT	2,590.000 LF	.		.	
2730	690.0250 SAWING CONCRETE	320.000 LF	.		.	
2740	715.0415 INCENTIVE STRENGTH CONCRETE PAVEMENT	49,460.000 DOL	1.00000		49460.00	
2750	715.0502 INCENTIVE STRENGTH CONCRETE STRUCTURES	11,526.000 DOL	1.00000		11526.00	
2760	SPV.0035 SPECIAL 01. CONCRETE SURFACE DRAINS SPECIAL	5.000 CY	.		.	
2770	SPV.0035 SPECIAL 02. TEMPORARY STONE DITCH CHECKS	100.000 CY	.		.	
2780	SPV.0045 SPECIAL 01. PORTABLE CHANGEABLE MESSAGE SIGN	352.000 DAY	.		.	
2790	SPV.0060 SPECIAL 01. LANDMARK REFERENCE MONUMENTS SPECIAL	3.000 EACH	.		.	
2800	SPV.0060 SPECIAL 02. REINFORCED CONCRETE ENDWALLS & GRATES 18-INCH SPECIAL	16.000 EACH	.		.	
2810	SPV.0060 SPECIAL 03. REINFORCED CONCRETE ENDWALLS & GRATES 29X45-INCH SPECIAL	1.000 EACH	.		.	

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2820	SPV.0060 SPECIAL 04. SEALING PIPES TEMPORARY	3.000 EACH		.		.
2830	SPV.0060 SPECIAL 05. SECURITY GATE CHAIN LINK (24') SPECIAL	1.000 EACH		.		.
2840	SPV.0060 SPECIAL 06. INLET DITCH CHECKS SPECIAL	6.000 EACH		.		.
2850	SPV.0060 SPECIAL 07. CULVERT DITCH CHECKS SPECIAL	3.000 EACH		.		.
2860	SPV.0060 SPECIAL 08. MANHOLE 6-FT DIAMETER SPECIAL	1.000 EACH		.		.
2870	SPV.0060 SPECIAL 09. TERMINAL HIGH-TENSION CABLE GUARD TL-3	2.000 EACH		.		.
2880	SPV.0060 SPECIAL 10. REMOVING FLEXIBLE TUBULAR MARKER & BASE	420.000 EACH		.		.
2890	SPV.0060 SPECIAL 11. TEMPORARY MEDIAN INLET TYPE 1G-MS	1.000 EACH		.		.
2900	SPV.0060 SPECIAL 12. MANHOLES 7-FT DIAMETER SPECIAL	1.000 EACH		.		.
2910	SPV.0060 SPECIAL 13. MANHOLES 8-FT DIAMETER SPECIAL	1.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SPV.0060 SPECIAL 14.					
2920	REINFORCED CONCRETE ENDWALLS & GRATES 30-INCH SPECIAL	4.000 EACH		.		.
	SPV.0090 SPECIAL 01.					
2930	HIGH-TENSION CABLE GUARD TL-3 SOCKETED	4,463.000 LF		.		.
	SPV.0090 SPECIAL 02.					
2940	CONSTRUCTION STAKING HIGH-TENSION CABLE GUARD	4,463.000 LF		.		.
	SPV.0090 SPECIAL 03.					
2950	SECURITY CHAIN LINK FENCE, 6-FOOT SPECIAL	478.000 LF		.		.
	SPV.0090 SPECIAL 04.					
2960	CONCRETE CURB AND GUTTER 32-INCH SPECIAL	55.000 LF		.		.
	SPV.0105 SPECIAL 01.					
2970	TEMPORARY STREAM DIVERSION STRUCTURE C-28-32	LUMP	LUMP			.
	SPV.0105 SPECIAL 02.					
2980	REMOVING TEMPORARY CROSSOVER, XON1 & XON2	LUMP	LUMP			.
	SPV.0105 SPECIAL 03.					
2990	REMOVING TEMPORARY CROSSOVER, XON3 & XON5	LUMP	LUMP			.
	SPV.0105 SPECIAL 04.					
3000	REMOVING TEMPORARY CROSSOVER, XOJ1	LUMP	LUMP			.
	SPV.0105 SPECIAL 05.					
3010	REMOVING TEMPORARY CROSSOVER, XOJ2	LUMP	LUMP			.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
3020	SPV.0105 SPECIAL 06. REMOVING TEMPORARY CROSSOVER, XOJ3	LUMP	LUMP			.
3030	SPV.0105 SPECIAL 07. CONCRETE PAVEMENT JOINT LAYOUT	LUMP	LUMP			.
3040	SPV.0105 SPECIAL 08. TEMPORARY MEDIAN INLET TYPE 2G-MS	LUMP	LUMP			.
3050	SPV.0105 SPECIAL 09. SALVAGING TREE	LUMP	LUMP			.
3060	SPV.0105 SPECIAL 10. MANHOLE 8-FT DIAMETER TEMPORARY	LUMP	LUMP			.
3070	SPV.0105 SPECIAL 11. CONSTRUCTION STAKING HMA PARKING LOT	LUMP	LUMP			.
3080	SPV.0180 SPECIAL 01. GEOGRID REINFORCEMENT	275,450.000 SY	.			.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE